

# American Aviation



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*The News Magazine of Air Transportation*

June 15, 1948

## The Braniff Challenge

**I**NAUGURATION of service to South America by Braniff International Airways is raising some intriguing questions of the role and power of the United States Government in exerting and implementing its authority in support of U. S. international air carrier certificates.

by  
*W. W. R.*

For twenty years Pan American World Airways and its affiliate, Pan American Grace Airways, have been the sole certificated U. S. airline operators in the expansive continent of South America.

For most of those two decades the two companies have had all of Latin America to themselves. Only in recent years has American penetrated the fringes to Mexico City, Eastern to Puerto Rico, National to Havana, and Chicago and Southern to Havana.

Both PAA and Panagra, who were bitter rivals until new common enemies appeared on the scene, have been rightfully proud of their pioneering in the Latin countries. They ventured where skeptics feared to tread, they had to develop many of their own airfields and build many of their own terminals. They had to install their own communications facilities. And, in the absence of any integrated government policy, they conducted their own negotiations with foreign governments. They had about the widest latitude that any airlines have had to develop and operate their routes as they saw fit.

The United States Government fostered their expansion, paying rightfully handsome mail pay to insure the construction of airfields, communications and ground facilities, and expansion of service in the interests of the commerce, the postal service and the national defense of this country. Our government provided airways to its domestic airlines but could hardly operate airways in foreign lands. Through the medium of mail pay, the same purpose was achieved by enabling PAA and Panagra to carry out the job on their own.

It is natural that both PAA and Panagra, after a long period of being exclusive U. S. operators, should not only resent the intrusion of their staked-out territory by other U. S. carriers, but would exert every means at their disposal to protect their chosen field. It is even natural that, although their

(Turn to page 8)



## Heads Fast-Growing Feederline

Tom H. Davis, capable 30-year-old president of Piedmont Airlines, Inc., attained a goal toward which he has been driving for past several years upon the activation last month of the final segment of Piedmont's more than 2,000 certificated route miles linking North Carolina and Virginia with the Ohio Valley. (See story on page 17.)

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## FORTNIGHTLY REVIEW

**AMERICAN AVIATION INDEX:** An index to AMERICAN AVIATION covering the six-month period Dec. 1, 1947 through May 15, 1948, (Numbers 13-24 of Volume 11) appears at the back of this issue.

Important aviation bills, including one to create a domestic air parcel post service and another to furnish government aid in construction of prototype transport planes, were facing last minute decisions as Congress prepared for a pre-convention adjournment. (Page 13)

Inauguration of service to South America by Braniff Airways on June 4 has more than the usual ramifications of opening up a new route. It is the first challenge by a U. S. certificated carrier to the continent dominated up to now by Pan American Airways and Pan American-Grace Airways. (Page 14)

Piedmont Airlines has now completed activation of service over its more than 2,000 miles of feeder routes linking North Carolina and Virginia with the Ohio Valley. (Page 17)

American Airlines' officials are well pleased with early performance of the Convair-Liner which began replacing the carrier's DC-3's on June 1. (Page 23)

### Duty-Free Exemption Increased to \$400

The value of foreign goods which American travelers may bring into the U. S. from any place in the world has been increased from \$100 to \$400 by Public Law 540, recently enacted. The increased exemption applies only to those who remain out of the country 12 days or more and may be used by an individual no more than once in any six-month period. The \$100 top limit still applies on trips of shorter duration. The new law, which was sponsored by Sen. Owen Brewster (R., Me.) will cut down substantially the customs work required at ports of entry and serve as a stimulant for tourist trade. Additional tourist money spent abroad is seen as positive force in world reconstruction, providing debtor nations with dollar credits to buy more American goods. This is the first time since 1897 that the duty-free limit has been changed.

### Investigation of AF Accidents

Rep. Albert J. Engel (R., Mich.) has asked the Secretary of the Air Force to investigate the large number of planes totally wrecked each year. The AF has estimated that it will wreck 1,062 planes this year—112 bombers, 570 fighters, 44 transports, 104 liaison planes, and 232 trainers. These figures include only planes destroyed by flying accidents; additional craft will be lost in ground mishaps. This means, Engel pointed out, that AF will wreck 27½% of its fighter planes, 8.8% of its medium bombers, and 16% of its light bombers. Replacement of these planes runs into millions of dollars. Engel stated that either the figures are inflated to provide a more convincing justification for plane appropriations or there is something wrong with the AF operational system.

### Munitions Aircraft Committee Reorganized

The Aircraft Committee of Munitions Board has been reorganized with Rear Admiral A. M. Pride, chief of Navy Bureau of Aeronautics, as chairman. Only two members of the former committee, Brig. Gen. A. A. Kessler of the Air Force and Capt. Lloyd Harrison of BuAer, will serve on the new committee. Main functions of the group are to coordinate aircraft procurement, recommend standardization, and develop industrial mobilization plans.

(Turn to page 6)

## AMERICAN AVIATION

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June 15, 1948

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WAYNE W. PARRISH

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## GOING UNDERGROUND FOR A "WHIRL"

► This aircraft turbine wheel is about to undergo a "whirl test"—a test to prove its ability to survive the tremendous centrifugal forces present while it spins at supersonic blade tip speeds.

► The test is conducted in an underground chamber from which the air is evacuated. This permits the wheel to whirl at higher speeds than required in service . . . for if the blades had to push air around at such speeds, enormous power would be required to drive the wheel. To detect any slight irregularity that might occur during the run, the test rig has an electronic indicator.

► Because some experimental parts are whirled to destruction to determine how much overspeed they can endure, the chamber is lined with laminated boiler plate—12 inches thick.

► Each newly designed turbine wheel, compressor, and supercharger impeller must prove its ruggedness in similar tests in the Wright Aeronautical research laboratories before being released for production.

► Another example of the painstaking research behind the development of Wright aircraft turbine and reciprocating engines.



POWER FOR AIR PROGRESS

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## FORTNIGHTLY REVIEW

(CONTINUED FROM PAGE 4)

### Aircraft Output Remains Stable

Output of complete aircraft, as measured by airframe weight, remained relatively stable from February to March. In latter month, aircraft with total airframe weight of 2,055,300 pounds were shipped, as compared with 2,033,000 pounds in February, according to report issued by Bureau of Census and CAA. Shipments to U. S. military customers accounted for 65% of the March total, personal-type civil aircraft represented 21%, transport-type 14%.

Of the 863 aircraft shipped, 585 were civil planes valued at \$7.2 million, an increase of 41% over the \$5.1 million in February.

### Names in the News:

**La Motte T. Cohu** on June 4 was formally elected president and general manager of Consolidated Vultee Aircraft Corp. at a Convair directors meeting. Cohu also became a member of the board and was voted a place on the executive committee . . . **Delos W. Rentzel**, new CAA administrator, has replaced **T. P. Wright**, former CAA head, as a member of the National Advisory Committee for Aeronautics. Wright, in turn, was re-sworn as a member from private life, in place of the late Orville Wright . . . **John A. Lawler**, controller of the airplane division and assistant treasurer of Curtiss-Wright Corp., has been elected president and a director of Aeronca Aircraft Corp. The Aeronca presidency has been vacant since last Nov. 7 when **John W. Friedlander** resigned. Its business had been supervised by **Elmer L. Sutherland**, v. p. and general manager, who has resigned effective June 15 . . . **Humphrey W. Toomey**, manager of the Latin American Division of Pan American Airways, was decorated May 19 at Rio de Janeiro by the Brazilian government with title of "Knight of the Order of Aeronautical Merit," Brazil's highest aviation honor. The award commemorated the pioneer development of commercial aviation in Brazil by Toomey who flew the first S-38 seaplane transport from the Sikorsky factory at Bridgeport, Conn., to Rio and Buenos Aires in September, 1929.

### Notes in the News:

Congress has been asked by President Truman for an extra \$100,000 in fiscal 1949 to spend on developing new aids to air navigation. The money is needed for planning and survey work on an all-weather traffic and navigation system . . . **Mooney Aircraft Co.** of Wichita, Kan., has developed a bantam plane which it claims can cross the continent for cost of only \$12. Known as the M-18, the craft is 18 feet long, has 27-ft. wing span, and weighs only 450 pounds. Powered by a 59-lb. Crosley Cobra engine, the single-seater plane has 8-gallon tank giving it a 6-hour flying range of about 400 miles. Company hopes to market it for \$1,500 . . . **KLM Royal Dutch Airlines** observed the 2nd anniversary of inauguration of its Amsterdam-New York service with arrival at La Guardia Airport of its 1,000th round-trip across the North Atlantic last month. Some 30,000 passengers were carried during the two-year period since May 21, 1946 . . . Contract to develop a lightweight, low-cost **omni-direction beacon receiver for personal planes** has been awarded by CAA to National Aeronautical Corp., Ambler, Pa. Goal is improved navigational aids for the private pilot . . . **New GI flight training contracts** being made by the Veterans Administration as of July 1 will offer the schools a better break in that 15% is being allowed, instead of 5%, for ad-

ministrative costs, and 8% for advertising. Schools have never been allowed money for advertising. The new formula applies only when cost determinations have been made.

### International

#### Action Urged on ICAO Standards

Russell B. Adams, chairman of the U. S. delegation to the Second Assembly of the International Civil Aviation Organization, now meeting in Geneva, Switzerland, has urged prompt action on a convention on international recognition of rights in aircraft. He noted with "regret" the slow progress made by the ICAO council during the past year. Speaking of ICAO work, Adams said, "It must be a source of regret to all of us today, despite the excellent work done by the technical divisions, and despite the urgent recommendation of the First Assembly, not one ICAO standard or recommended practice is as yet in force under Article 90 of the convention."

#### Test for Flying Boat's Future

A test as to whether the flying boat can survive in competition with ever faster landplanes is seen in the weekly service opened by British Overseas Airways Corp. using 35-ton Solents between Southampton and Johannesburg, South Africa. Pleasure will be an important feature of the new service. The trip takes over four days (landplanes do it in half the time) and, during night stops, visits are arranged to places of interest in Sicily, Egypt, and at Lake Victoria and Victoria Falls. Belief is that the route contains about the most appealing scenery in the western hemisphere, that if the flying boat fails to pay on this route it has little chance for survival.

#### New British Minister of Civil Aviation

Lord Pakenham has been named Britain's Minister of Civil Aviation, succeeding Lord Nathan, who is returning to his private law practice. Appointment of Lord Pakenham, who has been chancellor of the Duchy of Lancaster, a sinecure job carrying responsibilities for administration of the British occupation zone in Germany, came as a surprise, because no change was expected in MCA at this time. He is the third Minister of Civil Aviation under the Labor government.

#### New Services Proposed to South Africa

New air route proposals linking South Africa with France, Greece, Switzerland, and Italy are being considered by the South African government. First of the proposed French routes would touch at intermediate points in French Africa and continue through Leopoldville and Elizabethville to Johannesburg. Second route would be from Antananarivo, in Madagascar, via Quelimane, Mozambique, Beira, and Lourenco Marques to Johannesburg.

#### BEA Relinquishes Short Internal Routes

For the next six months a few short internal routes which have been operated by British European Airways will be turned over to private operators—the first such step taken since Britain's airlines were nationalized. Specific routes mentioned are Cardiff to Weston-super-Mare and Portsmouth to Isle of Wight. The routes are seasonal, too specialized to be run efficiently by BEA. Some London papers called the move a victory for private enterprise, the *Express* stating that "commercial flying should have never been put in the shackles of monopoly."



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## EDITORIAL

(CONTINUED FROM PAGE 1)

development was made possible by U. S. mail pay, that they should feel a deep proprietary interest in whatever they have accomplished, owned and operated.

In recent years there has been a vast change in U. S. government outlook toward international air transportation. Negotiations and agreements have become governmental matters. For some time the primary effect of this new government interest exerted itself in general international agreements and in bilateral agreements with countries of Europe, Asia and Africa. While it is probably not true to say that Pan American has entirely accepted the fact, it has at least resigned itself to the knowledge that it is one of three carriers to Europe, one of two carriers to the Orient, and one of two carriers to Hawaii. But until now South America, which saw the beginnings of the world-wide PAA system, has remained its own backyard.

On June 4, Braniff International Airways began thrice-weekly service from Houston to Guayaquil, Ecuador, via Havana and Panama. Braniff's permit to operate into Lima, Peru, has been suspended temporarily by Peru. In due time Braniff intends to operate to Rio de Janeiro and to Buenos Aires on the east coast of South America.

This is the first challenge that PAA has had from a U. S. certificated carrier in South America. Later this month it will have a second when Chicago and Southern begins operations to Venezuela. It is an intriguing new chapter in America's history of international air transport. It is more of a test of U. S. government policy than anything else that has happened.

No other airline executive has the slightest envy for Mr. Braniff and the task he has cut out for himself. Both Pan American and Panagra have made it no secret that they bitterly oppose the Braniff entrance into their chosen continent. Both make no secret of their determination not to cooperate or collaborate in the slightest degree. Both companies admit freely that they will place ample obstacles in Braniff's road. But on the other hand, they have in Thomas E. Braniff perhaps the most stalwart and determined challenger that could have been chosen from the U. S. air transport industry. Mr. Braniff cannot be under-estimated as a contender.

In the United States all airlines fight bitterly before the CAB on all new route cases. After new routes are won they fight stiff competitive battles for traffic. But once the CAB has granted a certificate, there is no question raised (except legally by petition to CAB) about the rights of the new carrier to operate or use whatever facilities are available. There never has been a time that we ever heard about that a domestic airline refused the use of ground equipment or other facilities to another carrier when the need arose. Bitterly as United would oppose American coming into Seattle, once the battle were lost for good, American would be an accepted operator in Seattle.

But outside the United States, and especially in

Latin America, the proprietary interest in an air route is very strong. It is understandable how this has come about since the airlines, not local governments, had to provide many of the facilities. But the Braniff entrance into the territory south of the equator will probably bring about, in due time, a much sharper definition of just what an international air carrier certificate comprises. We have in mind such questions as the extent to which a certificate holder is an instrumentality of the government, and the extent to which another carrier can go in challenging the validity of that certificate before foreign governments.

The keystone of the Braniff program is that this new airline is an authorized instrumentality of the United States Government and part of the government's foreign air policy. On matters of operating permits in foreign lands, it leaves the problem entirely to the Department of State. One rather expected incident has already arisen with respect to Peru's suspension of the Braniff permit, amounting, in the interpretation of our State Department, to Peru's violation of the bilateral air agreement between the two countries. Such procedures contrast sharply to the prewar history of airline operations in South America. It will be interesting to see just how firmly the State Department will back up its avowed policy.

One expects highly competitive battles for traffic among American carriers. Such competition will create much new business. The Braniff challenge in South America represents much more than mere competition for traffic, however. It is a challenge for establishment of a new air service against the stringent opposition of strongly-entrenched incumbents. It is the clashing of two philosophies of air transportation. Mr. Braniff has entered into the task with calm and calculating determination. Whatever its length or content, this new chapter on America's international air transport policy will at least not be classified as dull reading.

WAYNE W. PARRISH

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At a recent stockholders meeting of United Air Lines, W. A. Patterson, president, was asked by a stockholder: "Can anything be done to stop the playing up of every fatality by air?"

"That question comes up in our public relations department which is deeply concerned with it," Mr. Patterson responded. "I have only one answer—not to have accidents. That is the only way to keep them out of the papers."

---

"The main job of airline management today is to improve the quality and dependability of service, and to reduce costs. And by management I include every supervisor in our companies. We MUST improve the quality and dependability of airline service and at the same time we must reduce the capital costs of expansion and the costs of operating our businesses."—LaMotte T. Cohu, former president of Trans World Airline, in a recent speech.

AMERICAN AVIATION

# The Birdmen's Perch

By *Major Al Williams, ALIAS, "TATTERED WING TIPS,"*  
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.



**Thank you, gentlemen, thank you!**

We mean for all the mail.

Some of your letters were delightful . . . some were informative . . . some were downright hilarious . . . and all were mighty interesting.

Apparently, the majority of you want to continue the Little Known Facts About Well Known Planes Dept. That's jake with us. In fact it's dandy!

So all you Perch Pilots (bottom rung), you would-be Perch Pilots, and sundry innocent bystanders can start to shoot in your Little Known Facts again.

Rules are the same as in the past:

If we use your "Fact," you get a commission (which couldn't look more impressive with neon lights!) as Perch Pilot (br). If we use 5 of your "Facts," you get promoted to Senior Perch Pilot.

And if any super-hero ever gets 20 of his "Facts" into our print, we're going to make him a Command Perch Pilot!

Wow!

## PIPE THIS . . .

Smoke a pipe?

We do.

And we just finished one and tapped out the ashes.

Then we noticed that the cake around the bowl was pretty thick . . . needed to be reamed out . . . which we did. And while we were doing it, guess what we thought of . . .



Yep, the Alchlor Process!

We were thinking how ordinary refining techniques clean a crude oil about the same way that tapping out the ashes cleaned our pipe. The ashes—and some of the impurities in the crudes—come out with relative ease.

But there are other impurities in oil,

hydrocarbons which make sludge and carbon, that standard refining techniques fail to budge . . . just as tapping failed to budge the cake in our pipe bowl.

And that's where the famous Alchlor Process comes in . . . an *extra* refining step, it gets *extra* of the troublemakers out of Gulfpride!

Try it, and see!



## Lightplane Owners:

Watch this page next month for one of the most significant announcements ever made to lightplane owners or operators!

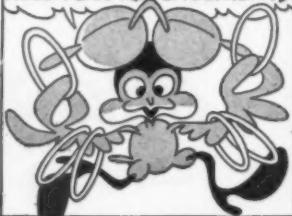
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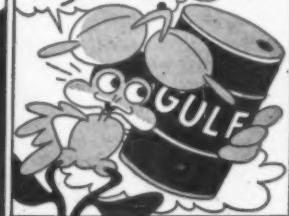
**IF YOU FIND IT, CHANCES ARE  
PRETTY GOOD THAT YOU  
NEED RING REPLACEMENTS.**



**IF YOU DO, GET EM! IT'S A  
SHAME TO WASTE ANY OF  
THE POWER FROM THAT...**



**GOOD GULF AVIATION  
GASOLINE!**



• **REAL PILOT COMFORT!** Completely adjustable seats, adjustable rudder pedals. All controls located forward and within easy reach of pilots . . . control handles identified by different shapes and colors . . . emergency controls overhead and accessible to both . . . heated, double-paned, bird-proof windshield.



• **PERFORMANCE PLUS!** The Martin 2-0-2 boasts unusual stability in flight . . . cruises at 100 m.p.h. faster than the twin-engine planes it replaces, at full gross weight of 39,900 pounds . . . can climb 1410 ft. per minute . . . has service ceiling of 23,900 ft. . . . owes much of its high performance to new, efficient Martin wing, flaps, ailerons. Unusual ground maneuverability is possible through steerable nose wheel.



• **PLEASES PILOTS!** Martin 2-0-2 can take off at full gross weight, over 50 ft. obstacle, in 2230 ft. Unusually wide center of gravity range eliminates loading problems. Mereg flexible fuel tanks, located outboard of engines and away from cabin, help minimize mental hazard. Exceptional stability and control characteristics make 2-0-2 easy to fly . . . require minimum effort on pilot's part with maximum response.

## Easy-to-Fly Martin 2-0-2 Designed for Pilot Satisfaction

UNUSUAL cockpit convenience, visibility and comfort, plus superior flying characteristics, make the Martin 2-0-2 the easiest aircraft of its type to handle. In mockup stages, Martin pilots worked with design engineers. Then experienced airline pilots inspected cockpit and made suggestions. Result: a cockpit for pilots, designed by pilots.

Pilot advantages of the 2-0-2 include heat anti-icing for wing, tail surfaces and propellers . . . quick, easy emergency gear extension, securely locked by gravity and airload . . . new Martin positive-control gust lock, instantly engaged on ground, simply released, providing complete safeguard against taking off with locked controls.

Pilot fatigue is reduced by efficient arrangement of cockpit controls and instruments. With this simple, logical arrangement, first things come first, giving a natural sequence of movements that minimize fatigue. Pilot may thus conserve energy for in-flight periods when maximum alertness is required. The Glenn L. Martin Company, Baltimore 3, Md.

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## BACKGROUND & TRENDS

**Unwise Tactics:** So deeply competitive is the aircraft and engine maintenance and overhaul field right now that most companies are trying to get new contracts by knocking their competitors. It's reached the cut-throat knock-out stage. Result is that the whole activity is being given a black eye. Practice seems to be to tell potential customer how bad your competitors are instead of telling how good a job you can do yourself.

**More Time Needed:** Look for CAB to change the regulation requiring airlines to install flight recorders on aircraft by June 30. General Electric has a recorder, and other companies are interested in entering the field, but only a small number of instruments will be available by deadline.

**Reaction Favorable:** Reaction among feederlines was generally reported favorable toward the informal inspection trip recently made by CAB Member Harold A. Jones. In what is believed to be the first systematic familiarization tour ever undertaken by a Board member, Jones met with managements of Challenger, Monarch, Pioneer, and Trans-Texas. Using the Board's own DC-3, Jones and his party flew portions of the feeder routes; Jones also flew the operation of Los Angeles Airways' helicopter mail service. Companies welcomed opportunity to air their problems first hand.

**Watching Closely:** Industry executives are watching closely CAB attitude toward equipment interchange proposals in the Southern Transcontinental Route Case. A major revolution in route concepts might easily follow, if CAB should adopt American Airlines' view that it has the power to compel interchanges, now a point of dispute between lawyers. Some observers feel strongly that widespread adoption of equipment interchange, whether voluntarily or under CAB compulsion, may well mean the end of major domestic route extensions.

**No Sale:** After prolonged study of the Convair-Liner, United Air Lines has decided not to buy it. Governing factors in the decision were the increased price, now about \$500,000, and the fact that UAL's particular needs for a twin-engined craft would be served better by a transport of less than 40-passenger capacity. UAL has a number of points, especially in the West, where a passenger or two a day comprises the present traffic potential. Unless future factors dictate reconsideration, the decision indicates UAL will make longer use of its DC-4's than previously anticipated and also will keep a number of DC-3's flying.

**Agreement Needed:** While manufacturing and airline industry generally feels that government sponsorship is only road to development of new transport types, some observers fear that industry leaders would appear before the proposed Civil Air Transport Evaluation and Development Board with widely different opinions and no advance agreement on types that should be developed. Intra-industry conflict, plus difficulty of compromising with military interests, could well nullify the value of the Brewster-Hinshaw measure now before Congress.

**Internal Differences:** Pan American World Airways pilots now want to keep Pan American-Grace Airways pilots from flying between Panama and Miami. PAA operates Panagra planes under charter. The 99-year agreement approved last year by CAB provided that Panagra pilots would fly Panagra equipment. But after a year of operating, with some Panagra crews based in Miami, the PAA pilots want to fly the charter segment. Panagra pilots are strenuously objecting.

**Simpler Tariff Rules:** CAB is considering simplifying its requirements governing publication of changes in tariffs. The airlines have asked to be relieved of some of the details and duplications, pointing out that printing and distribution costs for publication and revision of passenger tariffs had risen from \$22,056 in 1943 to \$63,755 in 1947. The 1943 cost was at rate of \$9.35 per page for 2,359 pages, while last year the cost averaged \$33.12 for each of 1,925 pages. Considerable savings would be made if certain waivers are granted by CAB.

**Where's the Monopoly?** Hitting at allegations of monopoly from "applicant freight lines," Harold Crary, v.p.-traffic and sales of United Air Lines, recently pointed out there are no major trade routes in the U. S. served by only one airline. A study of traffic between 50 pairs of cities, he said, showed that 95% have competitive service by at least two carriers; 59% by at least three; 13% by four or more.

**Ouch!** One reason why airlines have been operating in the red: the United-Eastern hangar at Chicago Municipal Airport was estimated to cost \$750,000. The hangar is now practically complete, but the cost has been \$2,100,000.

**First with Video?** United Air Lines is now using television in its advertising program in Chicago and Los Angeles, featuring one-minute spot films of scenes along the transcontinental route flown by its DC-6's. This may be the first use of video in air transport advertising.

**Bouquet for Grumman:** Generous tribute made to Grumman Aircraft Engineering Corp. in FORTUNE for June is especially notable since the magazine is seldom 100% laudatory of any company. Under title of "Happy Days at Grumman," FORTUNE gives a special bouquet to "the oldest management team in aircraft" (19 years), composed of Board Chairman Roy Grumman, President Jake Swirbul, Engineering Vice President Bill Schwender, and Financial Vice President Clinton Towl.

**Curtailed Mileage:** With April and May traffic far below anticipated volume, Capital Airlines has dropped 100,000 miles a month from summer schedules based on earlier forecasts. New schedules, effective June 3, eliminate 98% of duplicated mileage. They allow 52,000 miles daily and will probably stay in effect until daylight savings changeover in fall.

**Secret Report?** Intensive technical study of the aircraft industry undertaken last year by the Stanford University Research Institute for the Air Coordinating Committee has been completed, but indications are the report will not be made public. Military officials are insisting that the report be classified in view of present world situation, and original plan of circulating the study for industry comment will probably be abandoned. Two-fold purpose of the study was to bring up to date the 1945 ACC report which recommended military aircraft procurement minimums needed for keeping industry healthy and to recommend an industrial mobilization plan whereby industry could be expanded quickly.

**Air Mail Gains:** Domestic air mail volume under the 5c rate showed an increase of 59% in March of this year over September, 1946—the last month of the previous 8c rate. Present volume is twice that of 1941.

**392 Airline Stops:** CAB figures show 599 unduplicated trunk and feederline stops in continental U. S., excluding All American Aviation's pick-up Route 49. As of May 25, only 392 were receiving regularly scheduled service.

Research keeps

**B.F. Goodrich**

FIRST IN RUBBER



## Rubber lips that laugh at 70° below

TESTS of this Pressure-Sealing Zipper door, which B. F. Goodrich developed for a new airplane, showed excellent operation at most temperatures. But when it got down to 70°, the rubber lips that do the sealing job tended to stiffen. And that made the zipper hard to open.

B. F. Goodrich engineers went to work on the problem. They borrowed an idea from another B. F. Goodrich development—electric rubber. By running resistance wires through the core of the rubber lips, enough heat was provided to keep them flexible in extreme cold. Now, temperatures of

70° below—and even lower—hold no threat for the door-sealing lips.

Because these precision-molded lips overlap, and run the entire length of the zipper, Pressure-Sealing Zippers provide a 100% effective seal. They are also light weight. A typical door, which carries a load of 10,000 pounds, weighs only five pounds.

Pressure-Sealing Zippers have also proved a successful seal for removable sections of air ducts, for inverter covers, for water-tight protective coverings, and control surface seals. They save space by eliminating the need for bolted parts with gaskets.

They operate quickly and easily. They are adaptable to any kind of covering, irregular shapes, and light or heavy requirements.

The work which developed the Pressure-Sealing Zipper, electric rubber, and now heated Zippers, is typical of the B. F. Goodrich research which provides aviation with effective answers to tough problems. *The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.*

**B.F. Goodrich**  
FIRST IN RUBBER

## Parcel Post, Prototype Bills Face Last Minute Decision

By GERARD B. DOBBEN

Important aviation bills, one of which would create a domestic air parcel post service and the other furnish government aid in the construction of prototype passenger and cargo aircraft, were facing last minute decisions as Congress prepared for a pre-convention adjournment.

If these bills, along with other general welfare bills, fail of final passage before the scheduled June 19 adjournment date, the one main hope for their passage lies in a possible decision of Congress to return sometime in July to complete the job. Sen. Robert Taft, Senate Republican leader, hinted that this was a possibility as this issue went to press.

The objectives of these bills were recommended by the President's Air Policy Commission and the Joint Congressional Aviation Policy Board. They have been given top priorities by the committees of jurisdiction. The air parcel post bill has passed the Senate but its immediate consideration on the House unanimous consent calendar was objected to by Rep. James E. Van Zandt, Republican of Altoona, Pa. who said important industries in his district would be affected by inauguration of air parcel post service.

Van Zandt's objections will have to be removed before the bill could pass on the consent calendar. Even then, under House rules, any other lone objector could hold up its passage under unanimous consent procedures. As a final alternative, the bill could be reported out by the Rules Committee. Under this procedure, the bill would be debated and an opportunity would be given Congress to vote it up or down on a majority basis. Brought to such a vote, it would be assured of passage.

Passage of a domestic air parcel post bill has been pushed vigorously in recent weeks by the airlines. Estimates of the effect of such a bill on the airlines' traffic have varied widely, but some Post Office Dept. officials have said that a conservative guess would be that mail ton-miles (32,923,929 last year) would be doubled. Others, more optimistic, have predicted that yearly total will reach 100,000,000 ton-miles with parcel post.

To the large carriers, parcel post would mean more mail revenue, because

they are paid for each pound of mail carried. However, because loads would be larger, mail payment by the Post Office to these carriers would be smaller on a ton-mile basis.

To smaller carriers, whose rate structures contain "false" loads (ton-mile payment for more mail than is actually transported), the new type of traffic will not mean more revenue immediately. And for feederlines, paid on a mileage basis, there will be no additional revenue.

Effort was being made to get the prototype bill out of the House Armed Services subcommittee so that it might be assigned to the consent calendar. A Senate bill was already on the consent calendar.

Leaders of both the airline and aircraft manufacturing industry have told

Congress that this country's 18 months lag behind the British in the development of jet-transport planes will increase to three years, possibly more, if these bills are not passed this session. The aircraft industry has stated that it cannot finance the production of new prototypes, cost estimates of which run as high as \$35,000,000 for one model.

Other aviation legislation, less controversial, already was on the statute books or headed for what seemed certain approval. The House on June 8 passed and sent to the Senate a bill which authorizes the U. S. Maritime Commission to make a study of the need for a construction program involving lighter-than-air aircraft.

Awaiting the President's signature was H.R. 6407 known as the International Aviation Facilities Act which authorizes transfer of surplus U. S. military airports outside Continental U. S. to the Civil Aeronautics Administration or to the foreign country where the facility is located. This delegation of authority to CAA was considered highly important to the needs of U. S. international air transportation in foreign countries.



**British Inspection**—N. D. Showalter, chief of flight test at Boeing Airplane Co.'s Seattle plant, explains a fine point of the Boeing Stratocruiser cockpit to Sir Miles Thomas (right), deputy chairman of the board of British Overseas Airways Corp., and Vernon Crudge (second from right), BOAC's Atlantic Division manager. Looking on is J. B. Fornasero, chief pilot on the Stratocruiser project at Seattle. Sir Miles and Mr. Crudge were members of a BOAC group in Wichita last month to inspect the 75-passenger transport. BOAC has six on order.

# Braniff Begins S. A. Service

By WAYNE W. PARRISH

When the Civil Aeronautics Board awarded a new route to South America to Braniff International Airways almost two years ago, Thomas E. Braniff knew he had bitten off a big chew. But he thought he could digest it. After a long period of preparations, his airline formally invaded the Pan American Airways stronghold of South America on June 4.

But the inauguration was not without incident. The first flights were terminating at Guayaquil, Ecuador, instead of Lima, Peru. Just a week before service to Lima was to begin, the Peruvian Government unexpectedly suspended the Braniff permit into Peru on grounds (which no one took seriously) that it had been unaware that Braniff intended to serve Havana, Cuba, on its route.

Failing to get Peru to rescind its suspension prior to June 4, Braniff Airways decided to keep its Peruvian organization intact and ferry its ground equipment and parts to Guayaquil and await restoration of its permit to Lima. Twice weekly Braniff is now flying a DC-6 from Houston to Havana, Panama and Guayaquil. Once weekly it will fly a DC-4 combination tourist-cargo plane with fares 25% lower.

The Peruvian situation is complex. In the background is Peruvian International Airways, an airline more Canadian and American than Peruvian, but in which a number of prominent Peruvians are identified. It is reported that PIA has not been doing well financially. Foreign Minister Armando Revoredo, one of PIA's sponsors and the Peruvian air attache in Washington during the war, is on the spot. If PIA should fail, he'll get the blame. If Braniff begins to compete with PIA, then perhaps Braniff could be blamed for PIA's downfall. In the background also is Panagra, which has not been slow to pass on to Revoredo and others a gloomy traffic outlook when a third carrier gets into the race for traffic in and out of Lima.

There seems no doubt that Braniff will succeed in serving Lima, but just when is a question. The United States Government expects Peru to live up to its bilateral air agreement which leaves no room for equivocation. The big problem is how Peru (and Revoredo in particular) is going to save face. Currently the matter is "under study" by the two governments.

Later this year Braniff expects to operate as far as Rio de Janeiro on the east coast, and perhaps all the way to Buenos Aires if U. S.-Argentine air relations can be resolved.

On May 22, Braniff Airways conducted a super-plus pre-inaugural tour in a DC-6 filled with bankers, publishers, politicians, business men and civic

leaders, chiefly from the mid-west from Chicago to Texas. It was probably the best organized tour of its kind in airline history. Conductors were Thomas E. Braniff himself; Charles E. Beard, executive v.p., and Walter Henshel, director of public relations. The group was feted in Houston before departure, and feted royally and consistently in Havana, Panama, Quito and Guayaquil in Ecuador, in Lima, and in La Paz, Bolivia.

For the tour Braniff pulled out its top flight crews. Capt. Dick Lowry and First Officer Rolfe Carlisle handled the DC-6. Dorothy Brindley, chief hostess, and Pamela Archer, hostess supervisor, handled passenger service. Wallie Gabik, mechanic, and Bob Morrison, of Pratt & Whitney, were on hand just in case. (The DC-6 functioned without the slightest whimper.)

For side-trips in a DC-3 to Quito and La Paz, the former at 9,000 feet and the latter at 13,000 feet, Capt. Kenneth A. "Jack" Horner and First Officer Jody Brown, took command. Horner, one of Braniff's best, had never flown to La Paz before, but he acted like a veteran of the Andes. Passengers wore oxygen masks while flying at 18,500 feet. The La Paz airport is a mere 13,400 feet high.

Braniff has selected personnel carefully for its Latin American Division. At Havana is Douglass Wood, executive representative for Cuba. At Panama is Charlie South, an old Braniff hand who has been operating far off his selected beat getting extension plans ready. At

Guayaquil is John Long, whose territory is Ecuador. In Peru is Richard N. Bale. So far there are about 125 employees in the division. Peruvian hostesses and purers are being used, all having been trained at the Braniff base in Dallas.

Braniff has a few tricks up its sleeves in attracting passengers. For example, it will sell upper berths in its DC-6's for \$25 each, but the use of upper berths won't detract from filling all 52 seats up with passengers if loads justify. For a lower berth the cost is two seats plus \$25 per person. If there are two persons, the charge is \$25 each for the berth over and above the regular fare. There is no extra fare on the DC-6. The DC-4 with its combination cargo-passenger facilities and 25% reduction in fares is an interesting experiment.

For the time being all southbound flights will originate in Dallas, but later will originate at Houston.

Service to Quito, Ecuador, and La Paz, Bolivia, will await airport improvements at both places. Both can service DC-3's, but Braniff wants to wait and use DC-6's.

## ROUTE CASES

### CAB's Unused Authority

For 10 years, the Civil Aeronautics Board has been empowered under the Act "whenever required by the public convenience and necessity, (to) establish through service and the terms and conditions under which such service shall be operated," but not once has this authority been exercised. The possibility that it may be used has now arisen.

In the Southern Transcontinental Route Case, CAB Public Counsel Joseph B. Goldman posed the question by asking the Board to broaden the issues to inquire into the possibilities of getting a southern transcontinental route through interchange agreements either reached voluntarily between carriers or as directed by the Board.

On the day the proposal was made, airline counsel present were too surprised to register their views, but two of them came back two days later with answers to the interchange suggestion.

Eastern Air Lines declared that interchange was irrelevant to the issues of the case as it then stood, and that interchange could not substitute for through single-plane one-company service to the west coast as proposed in its application for a southern transcontinental extension. It pointed out that interchange in lieu of new route grants had not been proposed by the Board or any carrier party in previous cases in which mileage competitive with Eastern had been granted to other airlines.

American Airlines, on the other hand, thought well of Goldman's suggestion and offered to enter into equipment interchange arrangements "with any other carrier or carriers in the pro-



**20-Year PAA Pilot** — Capt. Robert H. Fett, Jr., (left), veteran Pan American Airways pilot, receives his 20-year pin from H. W. Toomey, manager of the Latin American Division. Fett, a master pilot, joined PAA in May, 1928, only a few months after the company began operations between Key West, Fla., and Havana, Cuba. He was third pilot employed by company, is first pilot to join exclusive circle of 20-year employees.

vision of through-plane service between points on its system west of Dallas-Fort Worth, on the one hand, and Miami, Jacksonville, Atlanta, Birmingham, New Orleans, Houston, San Antonio and such other points as the Board may deem proper." Such service, it said, could be provided immediately and "would not involve a mile of new routes and no diversion from long established carrier participation in the traffic."

National Airlines was quick to accuse American of being "insincere" and of adopting a "belated change of tactics" in an effort to block action on single-carrier Florida-Texas-California service. NAL attorney John W. Cross said that American previously objected to interchange in other new route cases and had rejected an interchange proposal offered it by National some three years ago. "It would not be interested now," he said, "except as a last hope of stopping CAB action to create one of the most logical, needed routes in the country."

The motion of Public Counsel went to the Board for decision.

### CAB Modifies Interchange

The Delta-TWA equipment interchange plan went into effect as scheduled on June 1, but not before competing carriers had prodded the CAB into issuing a last-minute order knocking out the Detroit-New Orleans through-plane service that had been contemplated in the program.

Unaffected by the Board's action was the inauguration of one-plane service between Atlanta and Detroit, between Jacksonville and Detroit, and between Charleston, S. C., and Detroit, and similar services to be instituted later between points on Delta route in the southeast and points on TWA's Route 2 in Ohio.

At instigation of Eastern Air Lines and Chicago & Southern Air Lines, who had filed strong protests within a week after the June 1 through-plane schedules had been announced by Delta, the CAB interposed on May 31 to call for a further hearing to determine whether the portion of the Delta-TWA agreement providing for Detroit-New Orleans service should be approved or disapproved.

C&S had objected particularly on the ground that New Orleans had not been added to Delta's Route 24 until after C&B approval of the basic interchange agreement last December and the agreement therefore could not have contemplated a through-plane New Orleans-Detroit service, a service which would divert substantial traffic from C&S flights between those points.

In their protests, EAL and C&S had asked that an order be issued restraining Delta and TWA from implementing the interchange agreement and that an investigation be held to determine whether the two airlines "have in fact entered into oral or written supplemental agreements extending the interchange



### Pacific Pacemaker—

Philippine Air Lines has inaugurated the first postwar sleeper air service across the Pacific with its weekly DC-6 flights to Manila, via Honolulu and Wake. Berths in PAL's three combination day-night planes are available for as little as \$75 over regular passage rates. PAL's schedule for the San Francisco-Manila run is 30 hours actual flying time, 36 hours elapsed time.

agreement originally approved by the Board."

Within three days, Delta and TWA had filed a supplemental agreement spelling out some 24 items of detail of the interchange proposal. Except for the Detroit-New Orleans feature, which it halted pending investigation, this agreement satisfied the Board, which said it saw nothing in it which would "adversely affect the interest of any other air carrier or . . . appear to require a hearing."

In operation, Delta crews fly Delta aircraft north over Delta routes as far as Cincinnati, where TWA takes over for the balance of the trip north to Detroit on TWA routes. Passengers remain on the same ships, with only a brief stop at Cincinnati for the crew change. Southbound, the procedure is reversed.

### LABOR

#### Board Studies NAL Strike

If anything were needed to add further confusion to the National Airlines strike case, it came on June 4 when President Truman wired the Emergency Board, then winding up its work and preparing to settle down and write its report, to "hold everything," or words to that effect.

The wire announced that Truman had broadened the scope of the investigation to include the strike of National's maintenance and clerical employees, who are members of the International Association of Machinists, as well as the strike of the ALPA pilots. Inasmuch as it superseded the May 19 order creating the President's Emergency Board, this action might have erased all that had gone into the record during nearly two weeks of involved and wordy hearings and necessitated a new start from scratch.

However, counsel for the airline and for the Air Line Pilots Association

agreed that the record already made would be put into the record of the new joint proceeding by stipulation. This record was chockfull of charges, counter-charges, denials, admissions and recommendations that would tend to perplex a Philadelphia lawyer, but on it and on the basis of such additional testimony as might be forthcoming at the new joint proceeding to be held beginning on June 21, the Emergency Board would have to write its report to the President.

The Emergency Board had been uncertain when it first started its hearings as to whether there actually existed a new and definite threat to interstate commerce such as the National Railway Act stipulates shall exist before the National Mediation Board, having failed to effect settlement of a strike, shall declare to the President, who in turn shall then appoint an Emergency Board.

Under prodding from Chairman Grady Lewis, it was brought out that the supposed threat consisted of ALPA's proposed "hot airport" plan of having ALPA pilots on other airlines refuse to operate into terminals served by National Airlines, including such terminals as LaGuardia Field, Washington National and Miami International.

For their part, the pilot representatives had made it clear that they were dubious of getting results from their strike action and would be willing to return to work and be placed back in the status quo that had existed prior to the calling of the strike last Feb. 3.

National showed no inclination to take them back unless so ordered by the President or a court of authority. In fact, just a few days before the Emergency Board hearing convened it was announced that the airline's non-union pilots, working under the terms of the contract that had existed between NAL and ALPA prior to the strike, had named a committee to draft a provisional seniority list.

The Emergency Board's recommendations are due by July 3.

## MANAGEMENT

### RATES & TARIFFS

#### Court Hears Rate Appeals

Appeals of TWA and Pan American Airways for review of CAB mail rate orders is set for oral argument June 16 before the U. S. Court of Appeals for the District of Columbia. The TWA case includes the issue of CAB's authority to grant retroactive mail rate adjustments. PAA's appeals deal with (1) treatment of receivables from Axis countries deemed collectible by the airline in 1945 and regarded by CAB as revenue for that year; (2) propriety of sums paid by PAA, Inc. to PAA Corp.; (3) legal issue of due notice that CAB intended to limit the carrier's rate of return to 7%.

Capital Airlines last month placed another mail rate case before the court in petitioning for review of CAB orders dealing with the airline's requested retroactive rate adjustments. Capital asked the court to review the case, set aside CAB's orders of last Dec. 5 denying retroactive increases, and order CAB to hold a hearing to establish a "fair and reasonable rate" for mail transportation for period from June 1, 1942, through Jan. 13, 1947.

#### UAL Matches PAA Fare

When United Air Lines put DC-6's back into service on the California-Honolulu run in late April, it hoped the faster schedules would tend to counteract the lower fares of its competitor, Pan American Airways, but it didn't take long to discover that some travelers preferred to save \$30 and spend an hour or two longer in the air.

Accordingly, United filed with the CAB notice of intention to put in a round-trip discount, effective July 1, on its California-Hawaii service. The one-way fare will remain at \$150, while the round-trip fare will be \$270, exclusive of federal tax. This matches Pan American's round-trip fare. The reduced fare will apply between Honolulu and San Francisco, Los Angeles and intermediate points between those cities.

#### CAL Expects '48 Profit

An April operating profit, increasing passenger revenues and successful arrangement of new financing combined to give the future a rosy look so far as Robert F. Six, president of Continental Air Lines was concerned.

Forecasting an operating profit of \$78,535 for the current quarter, "with all three months in the black," Six said that "if present traffic trends are a true indication of what the industry may expect in summer passenger demands, 1948 should be a banner year for Continental." Total company earnings for 1948, he suggested, should easily top the previous peak of \$344,000 of the 1944-1945 period.

Following a first quarter net operating

loss of \$84,115, compared to \$100,402 for the same period last year, Continental went over the hump in April with a \$15,000 operating profit, and higher profits for May and June were anticipated.

First quarter passenger revenue was \$616,248, a 10% increase over the \$563,318 for the same period of 1947, despite a slight decrease in passenger miles flown and a decline in the passenger load factor. Cargo traffic was up by better than 40%.

Strict operating economies, plus consolidations and mergers of ground services and facilities with other airlines, were given by Six as the principal factors making it possible for Continental to operate within its planned budget for the period.

Two steps in financing further brightened the picture. In late May, the company completed an underwriting agreement with the New York investment banking firm of Lehman Bros. whereby 37,500 shares of common stock were placed on the market, netting proceeds of \$300,000. At the same time the company's credit-line with the Chase National Bank was re-arranged to permit maximum borrowings of \$1,500,000 and a five-year plan of payoff, rather than the three-year plan previously in effect.

The company, Six said, would be able to pay cash for the five new Convair Liners ordered two years ago at a figure of approximately \$305,000 each, compared to the current factory price of \$495,000. These planes, to be delivered this summer, are expected to lower materially Continental's break-even load factor.

#### April Profit for MCA

After a poor first quarter, Mid-Continent Airlines hit pay dirt in April with a net profit after taxes of \$3,021. This compared to a net loss of \$6,535 in April, 1947.

Operating revenues of \$561,988 were \$55,520 or 11% above the preceding month and \$137,308 or 32% above April of last year, but the revenue per plane-mile flown was up only slightly, due to a drop in the passenger load factor. Expenses of \$558,931 were 28% greater than in April, 1947, due to higher costs and an increase of 31% in miles operated, but costs per revenue mile had decreased from 87.69c in April of last year to 85.10c in the same month this year.

#### Capital Loss Declines

Capital Airlines had a net operating loss of \$230,251 for the month of April, compared with March loss of \$317,721. Total operating revenues for the month were \$1,715,637, as against \$1,484,595 in March, while total operating expenses for April were \$1,841,637, as compared with \$1,738,183 in March. Revenue increases were shown in every category of traffic except air mail, the latter declining to \$179,499, as compared with \$268,454. Passenger revenue alone showed an increase of \$317,169.

### CAB CALENDAR

June 22—Hearing on equipment interchange agreement between National Airlines and Pennsylvania-Central Airlines. (Docket 3291). 10 a. m., e.d.s.t., Room 2015, Temporary Building No. 5. Examiner Edward T. Stodola.

June 23—Hearing on proposals of Pan American Airways for consolidation of its Pacific route certificates. (Docket 2953 et al.) Examiner Ralph L. Wiser. Place and hour to be announced.

June 23—Hearing on CAB Investigation of Fare Differentials in Pan American Airways. Miami-San Juan, Miami-St. Thomas Tariffs. (Docket 3274). Examiner Frank A. Law, Jr. Tentative. Postponed from June 23.

July 12—Hearing on route consolidation proposals of National Airlines. (Docket 2967). Tentative.

July 26—Hearing in Pennsylvania-Central Airlines Mail Rate Case. (Docket 484). Tentative. Examiner Ralph L. Wiser.

Aug. 2—Hearing in Free and Reduced Rate Transportation Case. (Docket 2737 et al.) Tentative.

#### Aviation Calendar

June 16-18—Aero Medical Association 19th annual meeting, Royal York Hotel, Toronto, Canada.

June 17-18—Aviation Distributors and Manufacturers Ass'n mid-year meeting, Grand Hotel, Mackinac Island, Mich.

June 21-25—American Institute of Electrical Engineers summer meeting, Mexico City.

June 22-23—Annual Ohio State Aviation Clinic, Bowling Green State U., Bowling Green.

June 27-30—National Aeronautic Association annual convention, Hotel Radisson, Minneapolis.

June 30-July 1—National Soaring Contest, Elmira, N. Y.

July 2-9—Second National Air Tour Week sponsored by United Pilots and Mechanics Ass'n (1101 Vermont Ave., N. W., Washington, D. C.)

July 6-7—NASAO executive committee and directors meet, Colorado Springs, Colo.

July 16-24—1948 Road Show, ARBA, including airport construction equipment, Soldier Field, Chicago.

July 17-18—Sixth Annual All-Dixie Air Show and National Airplane Trading Day, Chattanooga, Tenn. (Chattanooga Flyer's Club, sponsor.)

July 22—Personal Aircraft Council, AIA, meeting, Detroit Athletic Club, Detroit.

July 31-Aug. 8—International Air Exposition (New York's golden jubilee), New York International Airport.

Aug. 18-20—SAE West Coast meeting, Hotel St. Francis, San Francisco. Sept. 4-6—National Air Races, Cleveland.

Sept. 13-17—National Instrument Conference and Exhibit, Convention Hall, Philadelphia. (Sponsored by Instrument Society of America, Pittsburgh).

Oct. 6-9—SAE National Aeronautic Meeting and aircraft engineering display, Biltmore Hotel, Los Angeles.

#### International

July ——ICAO North Pacific Regional Meeting, Honolulu or Vancouver.

Aug. 24—ICAO African-Indian Ocean Regional meeting. (Site not chosen).

Aug. 27-Sept. 3—Federation Aeronautique Internationale, Cleveland.

Sept. 7-12—Society of British Aircraft Constructors show, Farnborough.

Sept. 8—ICAO Operations Division, Montreal.

## Route, Experience Favor Piedmont in Feeder Test

By KEITH SAUNDERS

Unlike most applicants seeking route certificates from the Civil Aeronautics Board, Piedmont Airlines, of Winston-Salem, N. C., actually got more mileage than it had asked for. Now all Piedmont has to do is to justify the Board's confidence in it, and it's off to a good start.

Piedmont is officially classified as a feederline, but the more than 2,000 miles its routes traverse between the North Carolina and Virginia coasts and Louisville and Cincinnati put it ahead of several of the so-called trunklines. Authorized to fly a maximum base mileage of 8,700 miles daily, it already is flying approximately 6,500 and it has been operating only about 18 weeks.

After being stymied for more than nine months while various legal blocks were brought against it by State Airlines, Inc., of Charlotte, an unsuccessful applicant in the Southeastern States Case, Piedmont finally got a go-ahead signal from the CAB on Jan. 29, and it has been moving fast ever since.

The first route segment—615 miles from Wilmington, N. C., to Cincinnati, via Pinehurst-Southern Pines, Charlotte, Asheville-Hendersonville, Tri-Cities (Bristol, Johnson City, Kingsport) and Lexington—was inaugurated Feb. 20.

Two weeks later, a second segment was opened, this one just a little north of the first and traversing the heart of North Carolina's industrial Piedmont section—from New Bern, N. C., to Louisville, Ky., with intermediate stops at Goldsboro, Raleigh-Durham, Greensboro-High Point, Winston-Salem, Tri-Cities and Lexington, a distance of 562 miles.

The third segment—a 310-mile route from Wilmington to Roanoke, Va., via Fayetteville (not yet being served), Raleigh-Durham, Greensboro-High Point, Winston-Salem and Danville—was opened on April 16.

The final segment, and the one Piedmont thinks may turn out to be its most profitable route, was opened only a few weeks ago, extending 564 miles from Norfolk, Va., to Cincinnati via Richmond, Lynchburg and Roanoke, Va., and Charleston, W. Va.

**Good Scheduling.** By mid-June, Piedmont expected to operate two round-trips daily over each of these four routes, and by smart scheduling will have each of its planes (four DC-3's at present with others being sought) touch at least once daily at Winston-Salem, where its main overhaul and maintenance shops are located. This will enable the company to take a plane off the run and replace it where this is indicated to be desirable. In fact,

smart scheduling is one of Piedmont's long suits, for this in turn means high utilization, and high utilization is one of the keys to profitable airline operations.

During the eight days it operated the initial route in February, Piedmont got an average daily utilization of only 1.82 hours per aircraft. This was boosted to 3.97 hours in March, to 7.65 hours in April, and was expected to be well above eight hours for May. Only a handful of trunk airlines are getting better aircraft utilization.

Maintenance and overhaul are problems of major concern to many airlines, particularly when first starting to operate, but Piedmont thinks it has these particular problems well in hand. For some years before the airline started operating, the parent company, Piedmont Aviation, Inc., had been running a large and profitable fixed-base operation at Winston-Salem's Smith Reynolds Airport. It had extensive mechanical facilities and a complement of experienced mechanics, and its figures indicated it could save money by doing its own major overhaul and maintenance work.

Supplementing this, it has a contract with a fixed-base operator in Wilmington for turn-around maintenance, has its own mechanics at Louisville and a stock of spare parts at other overnight points, and has contracts with other carriers for routine or emergency maintenance at other route points. These arrangements plus the fact that each plane passes through Winston-Salem at least once daily, should cut maintenance delays to

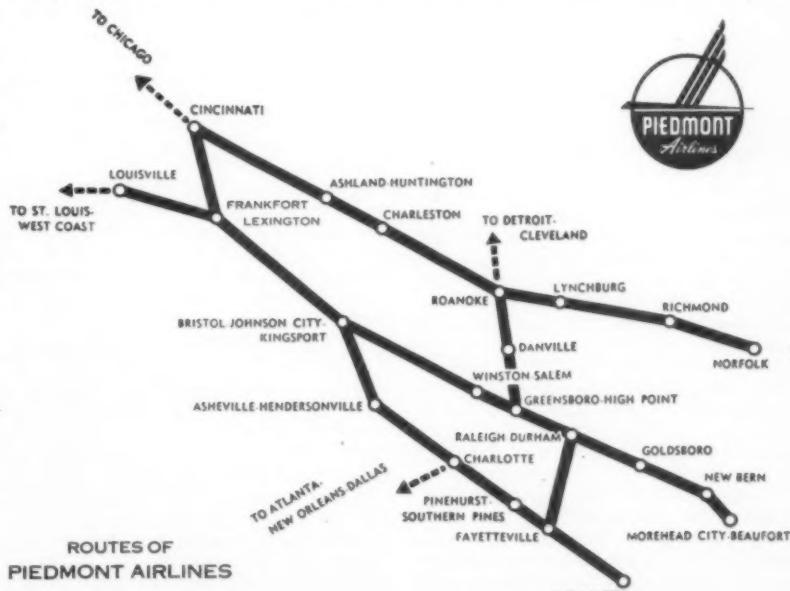
a minimum as soon as the airline gets three or four more planes, which it hopes will be soon.

From the standpoint of operations, Piedmont has its problems, but they are not nearly so numerous nor so serious as those that have plagued many a new feederline. It has several hundred miles of rough terrain in the mountains between Charlotte and Lexington and between Roanoke and Lexington, and the airports at Tri-Cities and Lexington are not easy to get into and out of under instrument conditions. The fields at Pinehurst-Southern Pines and Asheville-Hendersonville are not lighted and have to be bypassed at night.

Seven certificated route points are not being served at all now because of airport inadequacies or unavailability. They are: Bluefield-Princeton, W. Va.; Beckley, W. Va.; Ashland-Huntington, Ky.; Corbin-London, Ky.; Middlesboro-Harlin, Ky.; Portsmouth, Ohio, and Fayetteville, N. C.

**More Planes Needed.** Equipment-wise, Piedmont still has fewer planes than it needs. It wants a total of 10, so it can always have two or three in reserve, but good DC-3's are not easy to come by just at this time, although more should be available this summer. The ships the company now has in service are in excellent condition structurally and mechanically, and are equipped with the latest navigation and communication aids, including dual ADF's radar altimeters, and high frequency and VHF transmitters and receivers.

A special feature of Piedmont's operation is its low ground time. Three-minute intermediate stops already are the rule on some flights, and this will be so at nearly all intermediate route points as soon as the company's planes have been modified to include step doors





R. D. Hager  
Assistant to President



S. P. Gilley  
Operations Manager



Lee Golson  
General Traffic Manager



Les Watson  
Supt. of Communications



R. E. Turberville  
Chief of Stations

and larger rear baggage doors. The one plane equipped with the step-type door already has demonstrated that loading and unloading at intermediate stops can be done in three minutes.

Traffic has showed steady improvement during the first three months of operation. Passenger load factor was 17.46% for the period Mar. 1-15, increased to 25.23% for Mar. 16-31, and was 28.42% for Apr. 1-10.

Inauguration of new schedules on April 16 pulled the month's average load factor down, but it still was better than most feederlines have done after much longer periods of operation, and at a time when most trunklines were operating at load factors of 45% to 55%, Piedmont's showing was creditable. Actually, most of the company's daylight flights have been operating with load factors of 40% or better, but slim loads on the night flights have pulled the average down. This situation is expected to be remedied, at least in part, by a reworking of schedules so as to eliminate late night departures and arrivals.

Piedmont officials are confident the passenger potential is there. It has been demonstrated there is a strong community of interest between Louisville and Cincinnati and some of the line's North Carolina and Virginia cities. There also is a considerable potential of summer travel to the beaches at the eastern termini of Piedmont's routes—Virginia Beach at Norfolk, Atlantic Beach at Morehead City (served only from May 1 through September), and Wrightsville and Carolina Beach at Wilmington. Then there are quite a few sportsmen who like to visit the Pinehurst-Southern Pines section for golf, hunting and riding.

"There's not any doubt about our traffic potential; all we have to do is dig in and develop it," said Tom Davis, Piedmont's capable 30-year-old president.

**Sales Program.** Plans for developing traffic include an interline program with connecting carriers, direct sales and direct mail ("We believe the rifle approach is more effective than the shotgun type of sales program"), and a series of small

advertisements running in newspapers in all key cities on the system stressing the salient facts of flight time and fares to other key cities. Also, Piedmont places considerable reliance on its 22 station managers, all of whom are experienced airline people capable of serving in the dual capacity of operations and sales.

The company is fairly well financed, having just sold a \$675,000 stock issue restricted to bona fide residents of North Carolina. This assures Piedmont of the active interest and support of a good many people of influence in cities on its routes.

But this comparative affluence has not encouraged Piedmont to spend any money needlessly or lavishly. On the contrary, it is holding expenses down to the barest minimum attainable without adversely affecting operations and traffic. Here are some examples of its economies:

Instead of maintaining expensive downtown ticket offices, it handles reservations and ticket sales with its station personnel at the airports served. Instead of having ticket counters built by cabinetmakers in each of the cities served, Piedmont had them all built in its own shops at Winston-Salem and flew them to the stations at a considerable saving. It likewise manufactured its own baggage carts and passenger steps.

Its VHF radio transmitters were purchased from Army surplus and modified at a total cost of \$324 per installation, and the equipment is as good as new transmitters that would have cost \$3,000 each. It bought a number of surplus engines, cannibalized them and thus acquired a large stock of spare parts at a fraction of the market price. It acquired a \$30,000 Jacoby engine test cell from War Assets for about \$5,000.

Instead of going to a commercial printer for its operating manuals, it mimeographed them in its own office at very low cost. And so on down the line; Piedmont is overlooking no opportunities of shaving expenses, which augurs well for the company in these days when airline expenses tend to rise faster than revenues.

**Capable Management.** Behind this promising airline are the enthusiasm, vision and know-how of Tom Davis and a team of capable associates, most of whom were attracted from established airlines. Davis, son of a successful insurance executive, learned to fly while taking the pre-medical course at the University of Arizona, and upon graduation in 1939 he returned to Winston-Salem, promptly forgot all about medicine and became sales manager of the Camel City Flying Co.

This company was reorganized in 1940 and became Piedmont Aviation, Inc., with Davis as vice president. The company did a big wartime business in civilian pilot training under government contract. Emerging from this program with a store of accumulated know-how, sheds packed with expensive maintenance equipment, storage bins full of valuable parts, a balance sheet written in the blackest sort of ink and access to more capital, Piedmont was ready to branch out into a new venture.

After deciding that a regional airline was the kind of venture he wanted to go into, Tom Davis, by this time president of the company, applied for a CAB certificate and then began to surround himself with capable associates, mostly from Eastern Air Lines.

R. D. Hager, who had been with EAL for 17 years, came with Piedmont as assistant to the president. Lee Golson, a 10-year EAL veteran, took charge of traffic and sales. Gordon Brown came on as assistant traffic manager; S. P. Gilley became operations manager; Les Watson took the job of superintendent of communications; H. W. Nickerson was named superintendent of maintenance; R. E. Turberville became chief of stations; Robert S. Northington was made vice president; Milton F. Fare became secretary, and H. K. Saunders, an ATC veteran, was named chief pilot.

It is a young team and an enthusiastic one. All are concentrating on the goal of making such an outstanding record during the duration of the company's three-year temporary certificate that a permanent certificate will be assured them.

## NATIONAL DEFENSE

### AF Releases J-33 Jet

In order that American manufacturers may get into the race to develop a jet-propelled transport plane, the Air Force and the Civil Aeronautics Administration cooperated last week in turning over to interested plane-builders the J-33-21 centrifugal flow jet engine, power plant of one of the Air Force's standard jet fighters, the Lockheed F-80. CAA certificated the engine for application to transport construction and the Air Force agreed to permit civilian manufacture of the restricted engine.

The restricted classification on the engine will be maintained, for the Air Force still has some 700 F-80's in service. This will present no problem, however since aircraft manufacturers are cleared for classified material. The restriction will probably be lifted before a prototype jet transport is ready for flight.

The engine, built by Allison, develops 4000 pounds static thrust, which can be increased to 4500 pounds by water-alcohol injection. It is 103 inches in length, has a diameter of 51 inches, and weighs 1850 pounds. Allison has built approximately 1500 of the engines since October 1945.

A later model of the engine, known as the J-33-23, will not yet be made available to commercial interests, because CAA requires that a later model be in production before commercial certification is given to a previous model. This insures that the military services have exclusive right to the latest engine developments.

### Automatic GCA Tested

Having reduced the number of operators required to man a GCA set from the original five to one, the Air Force's Watson Laboratories of Red Bank, N. J., have now gone a step farther and eliminated the operator completely. The new automatic GCA, built by Gilfillan Bros. of Los Angeles, Calif., will be flight tested this month.

The set consists of an automatic tracking device which picks up the "pip" of an airplane on the radar screen as it turns onto its final approach to the runway and transmits electronic signals to a set in the plane. These signals indicate to the pilot his off-course error and the error in the rate of descent. The pilot can then either correct manually or use the set automatically, by connecting the autopilot, which is operated by electronic impulses from the tower set. The new GCA is somewhat similar to ILS, but, since tower operators can monitor final approaches on the radar scope, officials claim an advantage in that three planes could approach simultaneously.

### Plane Buying Begins

Out of the Pentagon and Navy Buildings last week streamed a flow of letters of intent to aircraft manufacturers tell-



**TC for Jet Engine**—Jet powered commercial transport advanced a step nearer reality last month when Fred B. Lee (left), acting CAA administrator, presented the first Approved Type Certificate ever issued for a jet engine. On receiving end is R. M. Hazen, director of engineering of Allison Division of General Motors Corp., accepting the certificate for Allison Model 400-C4 turbojet.

ing them to get started on the air defense program. However, not all of the \$3,198,100,000 which Congress had appropriated was immediately available to the air services. According to terms of the law, the purchases must be personally approved by the president, and Defense Secretary James Forrestal, reviewing the planned purchases in behalf of the president, lopped some \$300,000,000 off the initial purchase requests submitted to him.

This left the Air Force \$1,345,165,000 and the Navy \$653,635,000 for plane purchases. The Air Force figure is approximately \$200,000,000 less than the amount it has asked to spend, while the Navy's approved amount is about \$100,000,000 less. The remaining money of the total appropriation has not yet been earmarked by the services, except for \$400,000,000 which goes to liquidate last year's contract obligations. Forrestal must review the appropriations again in September and December, and it is possible that, at that time, he may restore the \$300,000,000 cutback.

### More 'Panthers' for Navy

Contract negotiations are under way between the Navy Bureau of Aeronautics and Grumman Aircraft Engineering Corp. for between 300 and 400 F9F "Panther" jet fighters. This will probably be the largest Navy order for fighter aircraft and indicates that the Panther will probably become the No. 1 plane of the naval air arm. The Panther, a sleek, single-seat fighter, is powered alternately by the new Pratt

and Whitney J-42 Nene engine, rated up to 5000 pounds thrust, and the Allison J-33. Its speed is in "the 600-mile-per-hour class." In addition to the new order now in negotiation, the Navy had previously ordered 100 F9F's.

### AF Buying Amphibians

The Air Force is now negotiating for the purchase of 20 Grumman JR2F Albatrosses, which will be used for air-sea rescue or light transport work. The Albatross, which the Air Force will designate SA-16A, is a high-wing, two-engine Navy amphibian, powered by Wright R-1820 engines of 1425 hp each. Wing span is 80 feet, length 61 feet, 4 inches and height, 24 feet 5 inches.

### End of ATC, NATS

Two of the world's greatest airlines went out of business on June 1 as the Air Transport Command and Naval Air Transport Service merged to become Military Air Transport Service.

The Air Transport Command was organized in July 1942, an outgrowth of the Air Ferrying Command, which had been activated to deliver lend-lease aircraft to Great Britain. In the six years of its operation, ATC carried more than 4,500,000 passengers a total of 10,400,000,000 miles. In addition, it loaded more than 1,350,000,000 tons of mail and cargo, and flew this tonnage a total of over 3,000,000,000 ton miles. Fatality rate for its passenger carrying operation was 7.08 per 100,000,000 passenger miles, and this figure included wartime operations, such as the "Hump-flying" program between India and China.

Naval Air Transport Service came into being Mar. 9, 1942. Since then it has carried over 2,500,000 passengers a total of 3,600,000,000 miles. NATS also hauled about 300,000 tons of mail and cargo a total ton mileage of 520,000,000. Passenger fatality rate for its entire time of operation was 6.38 per 100,000,000 passenger miles, including war-time operations. Since Jan. 1, 1947, NATS has not had a single fatality.

### New Aircraft

The Chase Aircraft Co. of Trenton, N. J. has been awarded an Air Force contract for two experimental models of a light assault transport known as the C-122. The design of the C-122 evolved from that of Chase's cargo glider, the CG-18A. The plane, which is powered by two Curtiss-Wright Cyclone 1820 engines of 1350 hp each, has a wing span of 86 feet 4 inches, a length of 53 feet 5 inches and a height of 19 feet 10 inches. Gross weight is approximately 25,000 pounds. It is expected to fly this summer.

The Air Force has also let a contract to Chase for a larger cargo transport, known as the C-123. This design will be taken from that of Chase's largest glider, the CG-20A.

—JAMES J. HAGGERTY, JR.

## PERSONNEL

### ADMINISTRATIVE

**Arthur T. Spence** of Milwaukee, G. E. Slezak of Oconomowoc, and **Arthur A. E. Mueller** of Wausau have been elected to the board of directors of Wisconsin Central Airlines.

**Col. Leonard M. Rose**, who has been based in Paris directing Trans World Airline's overseas region, has resigned to enter private business.

**R. H. (Bob) Everitt** has resigned as manager of Eastern Air Lines, S. A., joined the New York firm of Starr, Duff and Smith, to take over the management of their farm machinery and automotive parts business in Mexico.

### —OPERATIONS-MAINTENANCE—

**William R. Crismon**, acting operations manager of Challenger Airlines at Salt Lake City for past seven months, has been promoted to operations manager.

**J. W. Meyer**, formerly superintendent of ground operations for Chicago & Southern Air Lines, has been appointed director of passenger service, replacing **J. A. Schoenhoff**, resigned.

**Capt. L. Scott Keller** has been appointed chief pilot of Challenger Airlines, replacing **Capt. Floyd Ririe**, who is returning to full-time duty in flight operations. Keller was a first officer with Western Air Lines before joining Challenger last year.

**Miss Carol E. Peterson**, former United Air Lines safety counselor, has been appointed assistant to **J. C. Curtis**, superintendent of ground safety, with headquarters at Denver.

**Sanford Willits**, former superintendent of overhaul with American Overseas Airlines, has been appointed superintendent of Lockheed Aircraft Service, Inc., at Burbank, Calif.

**Carl J. Brock**, who has been in aviation maintenance work for the past 25 years, having worked for Eastern, Northwest and Delta and more recently as director of modification for Southern Airways in Atlanta, has joined the Northwestern Aeronautical Co., at St. Paul as superintendent of maintenance and overhaul.

**G. Platt Hind**, formerly a passenger agent in Salt Lake City, has been named station manager for UAL at Walla Walla, Wash.

**G. R. Martin** is United's first station manager at Baltimore, having been transferred there from Vancouver, B. C., where he was replaced by **Ernest Edwards**, formerly chief of station operations.

**Samuel H. Newbill** has taken over the position of director of research for Eastern Air Lines, succeeding **Alex Hart**, who resigned to become director of research for the Port of New York Authority.

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**T. P. Delafield**  
Delta Passenger Traffic Manager

### TRAFFIC & SALES

**T. P. Delafield** has been promoted from passenger relations manager to passenger traffic manager for Delta Air Lines, succeeding **J. J. Medaries**, who resigned to enter private business.

**L. Guy Carter, Jr.**, who since 1946 has been southern region reservations manager for Braniff Airways, has been appointed assistant to manager of reservations and passenger service.

**Edward F. Yarnell**, formerly traffic and sales representative for Eastern Air Lines in New York City, is now traffic and sales manager in Newark.

**Harold J. Laird**, formerly with American Airlines and before that in the sales promotion and advertising fields, has joined Pan American Airways as assistant to the manager of the sales promotion department.



**L. Scott Keller**  
Chief Pilot of Challenger

**Steve Stimpson**, who prior to the war was district traffic manager for UAL in San Francisco and more recently had served with California Eastern Airways, has returned to United in the cargo sales department in Los Angeles.

**Leonard E. Juengling**, Kansas City advertising man, has been appointed supervisor of advertising for Mid-Continent Airlines, succeeding **Ed Salmon**, resigned. Juengling had been with TWA before opening his own advertising agency.

**Allan J. Walsh, Jr.**, has been named to head Northwest Airlines' publicity department on the West Coast. **Charles (Chuck) Bier** is his assistant.

**Bennett King**, formerly of the Chicago Journal of Commerce, has joined United Air Lines' publicity department in Chicago.

**William F. Vonah**, U. S. cargo manager for SABENA Belgian Air Lines for the past nine months, has resigned to become a vice president of Foley & Co., New York export-import firm.

**James L. Murphy, Jr.**, has resigned his position as public relations manager for United Air Lines at San Francisco to accept a position with the Motion Picture Association in London.

**Henry C. Suhrke**, formerly assistant traffic and sales manager for Eastern Air Lines in Louisville, has been transferred to Detroit in same capacity.

**Raymond C. McGuire** has been named as eastern regional cargo superintendent for National Airlines, with headquarters in New York.

**Harold R. Watson**, formerly traffic and sales representative for Eastern Air Lines in New York City, has been appointed assistant to the general traffic and sales manager.

**William F. Keefer, Jr.**, has replaced **Lon Davis** as city traffic manager for Braniff Airways at Wichita Falls. Keefer had been a traffic representative at Dallas.

**C. B. Newman** has been appointed assistant traffic and sales manager for Eastern Air Lines in Washington.

**George Haney**, who since last fall had been engaged in special traffic activities for some of the members of the Airfreight Association, resigned recently to accept a position with a freight forwarding firm in New York City.

\* \* \* \*

**G. W. Lupton, Jr.**, formerly vice president and general manager of Santa Fe Skyway, Inc., and one-time assistant chief engineer of the Douglas Aircraft Co., has become associated with **Charles A. Rheinstrom**, Inc., New York aviation consultants.

## PERSONNEL

**Robert E. Redding**, formerly in the office of general counsel of the Civil Aeronautics Board and more recently an associate attorney of the Tax Court of the United States, will become confidential assistant to CAB Member Russell B. Adams on July 1.

**Miss Kay Alger**, research assistant to the general counsel of the Treasury Department since 1942, has accepted the position of confidential assistant to Joseph J. O'Connell, Jr., chairman of CAB, succeeding **Mrs. Dorothy Brown**, who served as confidential assistant to former Chairman James M. Landis.

**Hardy K. Maclay**, assistant general counsel-finance of CAB, will resign on or about June 16 to enter the private practice of law with **Stanley Gewirtz**, whose resignation as executive assistant to Chairman Joseph J. O'Connell, Jr., became effective this week.

**David J. MacDonald** has been appointed chief of service of the Minneapolis-Honeywell Regulator Co.'s aeronautical division. As part of his duties, he will have charge of the service school the company conducts for personnel of the various airlines and agencies using Honeywell equipment.

## New Officers for AOA

New officers were elected for American Overseas Airlines last month, while officers of American Airlines were re-elected.

Ralph S. Damon, president of AA, was elected a v.p. of AOA. Lawrence C. Fritz, v.p.-operations for AA, becomes v.p.-operations for AOA also. James G. Flynn has been named assistant v.p. of both AA and AOA and will be responsible for the overseas operations under the direction of Fritz. W. H. Miller, now assistant v.p. AA, has also been elected assistant v.p. AOA for operations. Rex Smith, v.p.-public relations of AA, was elected v.p. of AOA.

William Hogan, AA treasurer, was named v.p. and controller of AOA. O. M. Mosier, v.p.-properties, AA, will have general supervision of property matters for both companies and has been elected v.p. of AOA. James Eaton becomes assistant to Mosier.

R. L. Griffith, assistant secretary of AA, has resigned.

## TWA Election Postponed

The board of directors of TWA adjourned their last meeting without naming a president to succeed LaMotte T. Cohu, resigned. Company is being run at present under executive committee composed of Warren Lee Pierson, chairman, Noah Dietrich, A. V. Leslie and John A. Collings. The latter, who is vice president-operations was named by the board to serve as a fourth member of the committee.

June 15, 1948

# Airline Commentary

By ERIC BRAMLEY

**B**RITISH Overseas Airways Corp. has always been, in our opinion, one of the better airlines when it comes to selling service . . . Well, we learned something the other day that may not exactly come under the head of passenger service, but at least it's done out of consideration for the customer . . . BOAC, it seems, works on the theory that there are still a lot of people who are afraid to fly . . . So it does nothing that might aggravate this fear . . . To this end, BOAC station personnel have strict instructions that they are never to run when on airport property . . . For example, if a plane is ready to leave and there is something yet to be put aboard, a BOAC man will walk over and get it, but he won't run . . . The company believes that, to a passenger, running means an emergency—something is wrong . . . It doesn't want this impression conveyed, so there's no running . . . This comes under interesting items we never knew 'til now . . .

An airline president said to us the other day: "The other morning I didn't even have enough money on me to buy a cup of coffee. Didn't want to borrow from the wife because then she'd think I was exceeding my allowance. So I went on to the office and sat in a meeting, talking about three million, six million, nine million dollars. You know, sometimes I feel like Amos 'n Andy" . . .

Airlines are having a lot of trouble with company mail . . . It gets lost, put aside, routed wrong, delayed and kicked around . . . Sometimes important matter is in the company mail, and local people are so busy they don't even open the envelopes . . . So one airline executive decided he would teach people to be more careful . . . He sent out paychecks in ordinary board mail envelopes . . . Payday arrived and there were screams for paychecks from various points on the system . . . There were also red faces when the boys were told rather pointedly that if they had watched their company mail they would have found the checks . . .

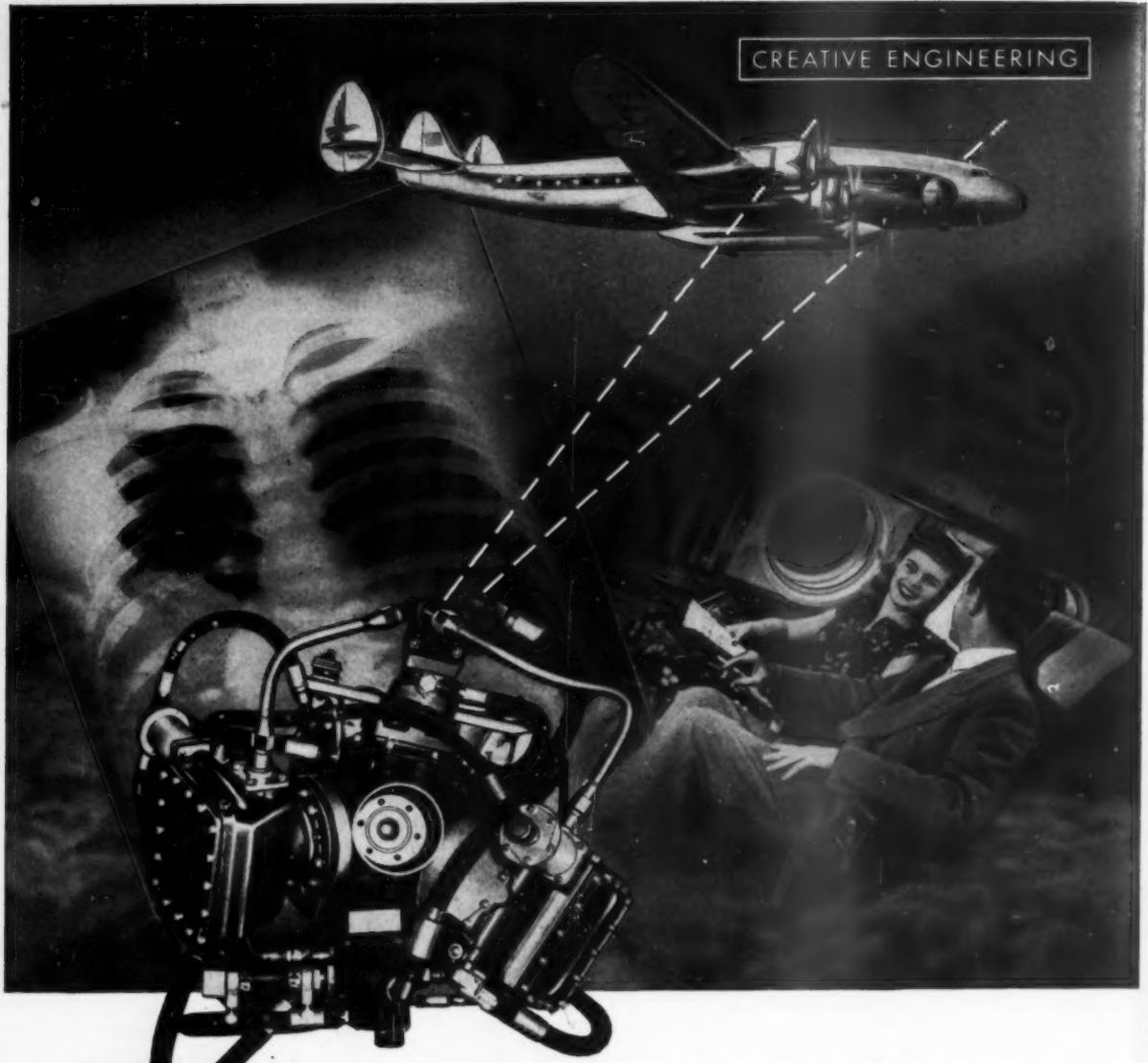
We heard one the other day about the pilot on a foreign airline who was approaching LaGuardia in rather soupy weather, and was told by approach control to "hold over Hoboken" . . . There was a considerable amount of silence on the radio . . . Then the pilot came back with: "And vere is Hoboken?" . . .

Public relations is a much-abused department in any airline . . . Unless the pubrel chiefs watch closely they find their departments loaded up with expenses of all kinds because pubrel seems to be a common dumping ground for miscellaneous expenses difficult to allocate . . . One pubrel department discovered it was being charged with the cost of painting the sign of the airline on ramp equipment . . . When the department protested, the defense was: "Well, the paint job was public relations, so why shouldn't public relations pay for it?" . . .

From time to time, railroads have put up signs in the general vicinity of airports, advising the public to try the trains next time . . . We now see that one of the airlines is stealing their stuff . . . Right along the tracks of the Southern Railway leading into Washington appears a nice big sign: "Next Time Fly Capital Airlines" Well, turn about's fair play . . .

Here's an interesting commentary on the early air mail days . . . We wanted to check up on an old-time pilot, so we called the Post Office Dept. . . . "Yes," was the answer, "he worked for us. Came to work in 1918 as an air mail pilot. Might be interested to know that his salary was \$2,000 a year plus 10% flight pay. Two years later he was getting \$2,000 plus 5c a mile. Left us in 1927. At that time his salary was \$3,500" . . . Sounds like the Post Office didn't overpay the boys . . .

When a regional vice president is a no-show, we must report it . . . Especially when he no-shows on a trip to Europe . . . Seems like W. N. "Bill" Bump, American Airlines' regional vice president for New England, was all set for a trip to Oslo . . . So he pulls into LaGuardia at one o'clock . . . But there was a slight technicality—the plane had left at twelve . . . He waited until the next day . . . And we understand that he's been taking quite a beating about it ever since.



CREATIVE ENGINEERING

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Up in the troposphere the big problem is *breathing!*

Outside is thin, freezing-cold atmosphere. Somehow it must be scooped up, compressed and delivered inside the cabin, richer in oxygen, near sea-level in density, *breathable*.

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of AiResearch are now available to you, whatever your field may be.

- AiResearch engineers—designers of rotors operating in excess of 100,000 r.p.m.—invite your toughest problems involving high-speed wheels. Specialized experience is also available in designing and manufacturing compact turbines, and compressors; actuators with high-speed rotors; air, gas and fluid heat exchangers; air pressure, temperature and other automatic controls.

For information, write: AiResearch Manufacturing Company, Los Angeles 45, California.



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DIVISION OF  
THE GARRETT CORPORATION

New Transport Looks Good:

## Convair Goes Into Service:

By KEITH SAUNDERS

"Six months from now we may be cussing it, but right now we think we've got a good airplane."

The speaker was Joseph F. Martin, director of maintenance for American Airlines, and he was talking about the new Convair twin-engine transport, nine of which were put into service by American June 1.

He was quick to add that he considered the possibility of American having a change of heart with regard to the Convair to be a most remote one.

"It will develop bugs, of course, as its flight experience increases," said Martin. "In fact, we already have had occasion to recommend a number of modifications on the basis of our limited use of the Convair, and we expect to uncover more."

"But," he added, "no major modification has been necessary to date, and we feel that none will be required. It's a remarkably clean, efficient and well-designed airplane."

For a man of Joe Martin's practical bent of mind, such enthusiastic endorsement of a new type aircraft may be unusual, but it is indicative of the way virtually everyone connected with American Airlines feels about the Convair.

Talk to people like William Littlewood, vice president-engineering; to Walter W. Braznell, director of flight; to Louise Brown, chief stewardess at New York; to George Hayes, Convair project engineer for the airline; or to T. W. Brooks, director of passenger and cargo service; and you get the about same reaction from each of them. To every American Airlines official or employee who knows anything about the plane, from the top "brass" of the company down to the "grease monkeys" in the hangars, the Convair is "a wonderful airplane" or "the best airplane I've ever seen."

Bill Littlewood put his finger on it when he said:

"The Convair is truly an airline's plane. The airlines probably had more to say about its design and specifications and the manufacturer less to say than with any transport aircraft ever built."

**Pilots Like It.** American's pilots are among the principal boosters of the plane for a number of reasons, chief of which is the spacious, comfortable and simplified cockpit. Capt. J. F. Bledsoe, a regional chief pilot, expressed the seemingly unanimous view of all AA flight personnel when he described it as "a pilot's cockpit."

Simplification is the keynote in the Convair cockpit. All buttons, switches and levers are conveniently accessible and easily operated; all the more im-

portant dials on the instrument panel are conveniently grouped in a T arrangement for quick checking with a minimum of eye movement; a new type gust lock is "foolproof" to the extent that the plane can not possibly be flown until it is disengaged; the seats are comfortable and the cockpit roomy, with ample space beside the seat for the pilot to put his kit, and the cockpit is exceptionally well lighted.

Aside from this, the AA pilots like the Convair because of its handling characteristics, its sensitive response to the controls, its stability, its speed and its rate of climb. ("She really gets upstairs," is the way the pilots refer to this rate of climb, which is better than 1,000 feet a minute.) They also like the Curtiss Electric reversible pitch propellers because of the way they can be used to check the speed of the plane after touching down on the runway. And the Convair pilots thoroughly enjoy leaving a station several minutes behind a four-engined plane and reaching destination 10 minutes ahead of it.

It would seem that American Airlines' stewardesses wouldn't be so keen on being assigned to the Convair, which has only one stewardess to cater to a maximum of 40 passengers, whereas on the company's other twin-engine ships—the DC-3's—one stewardess serves a maximum of 21 passengers and on the 50-passenger four-engined ships there are two stewardesses. But Miss Brown will

Cups for coffee are in the box, and she later comes down the aisle with a coffee jug. It works out very nicely. Another thing the girls like is the fact that hot water does not have to be brought aboard the Convair; a hot water switch in the buffet is flipped prior to take-off, and there is always plenty of hot water for the basin wash in the lavatory.

**Easy Servicing.** Frequently, a plane will be liked by everyone but the mechanics, who are wont to complain that the engineers designed it with the end in view of completely frustrating those who have to service it. Not so with the Convair. The mechanics are as pleased with it as the pilots and stewardesses. Ease of maintenance is the answer. Maintenance Director Martin says the engines and components of the Convair are more accessible for inspection, serv-



Cockpit of American's Convair-Liner  
Simplification is keynote; pilots like it.

## OPERATIONS-MAINTENANCE

icing and repair than those of any plane he knows anything about.

There is, for example, the "orange peel" cowling—a full-cantilever, four-section cowling which can be swung wide open in a couple of seconds, exposing the entire power plant for inspection or servicing. Or, any single section of the cowling can be swung back independently of the others, uncovering only that section of the engine the mechanic wants to get at. So simple are the connections of the Pratt & Whitney R-2800 engines, that a complete engine change on the Convair can be made in about 40 minutes.

Some 30 or 40 inspection plates spotted all over the fuselage, empennage and wing make "trouble-shooting" easy on



**Orange Peel Cowling**  
Good for quick servicing.

the Convair, and the hydraulic, electronic and electrical systems are easy to get to. Most of the servicing is done from underneath the plane, and almost every potential trouble spot can be reached from the ground or, at most, from a two-step stand. American is certain the maintenance time on the Convair will be no greater than that on the DC-3, although overhaul time will be greater.

Other features of the Convair which American likes and which its passengers should favor: the integral steps, which reduce ground time at intermediate stops; the large and conveniently located baggage racks, enabling passengers to take their own light baggage on and off the plane and thus avoid checking, weighing and waiting procedures; the pressurization system, which enables the ship to fly at 10,000 to 15,000 feet, above the weather, with no discomfort to passengers; the 300 mph speed, the larger windows, the larger lavatories, seat pockets large enough to hold a blanket.

**On Debit Side.** Now, having checked through most of the good points of the Convair, let's have a look at the other side of the picture. For, as Joe Martin stated, the plane does have some bugs. Every new aircraft does.

During the intensive pilot training

program at Ardmore, the familiarization tours around the AA system, the more than 100,000 miles of scheduled cargo service operated over a five-week period and the 100 hours of certification tests, flaws did appear. By late April the company had recorded a sizable list of modifications, some 17 of which were put on a "must" list and were accomplished at the Tulsa overhaul base prior to inauguration of scheduled Convair service on June 1.

Most of these were of a minor nature, requiring only three to 10 man-hours per ship. The entire "must" list required about 1,000 man-hours. Typical modifications: installation in the cockpit of a position indicator for the fuel shut-off valve; installation of a permanent CO<sub>2</sub> discharge indicator as a safety measure; and installation of fans in the cabin. Most of these changes will be incorporated in the remaining Convairs as they come off the line, but American wanted them made in the first group of ships for purposes of standardization or safety, or both.

One principal change so far recommended is changing over the door from mechanical to hydraulic operation. It has been found that they are rather hard to open, because of the added weight of the integral steps, and it is almost too much of a job for a stewardess to handle them. Engineering plans for this change have been completed, and the modification will not be expensive.

There is a noise problem, too, that will have to be dealt with. Aft of the trailing edge of the wing, the cabin is much more noisy than it is up forward. This is caused by exhaust gas from the augmentation tubes beating against the aft part of the fuselage, and it is doubtful that the walls could be made sufficiently soundproof to deaden the noise. Engineers have not yet determined how this condition can best be remedied, but Consolidated Vultee, which will be responsible for this modification, expects to come up with an answer in the very near future.

**Improvements.** Another improvement, which is in the nature of an addition to rather than a modification of the original aircraft, will be the addition of water injection to the engines, boosting the rating of each engine from 2,100 horsepower to about 2,400 hp, and thereby making possible higher payloads and the use of less runway for take-offs. With dry engines, the Convair is approved for 39,000-lb. gross take-off weight and 37,143-lb. gross landing weight; with water injection, it is expected to qualify for an approved gross take-off weight of 40,500 pounds and a landing weight of 38,600 pounds.

This will permit carriage of more cargo, which the Convair has ample space for at present.

The addition of water injection will be done partly by the airline and partly by the manufacturer. The latter will deliver the last 25 of American's order

of 75 Convairs with the water injection feature already installed. The first 25, most of which have been delivered, will have dry engines, and American will have to install the water injection at a cost of about \$4,500 per plane. The second 25 will be partially equipped, with tank and hose, but American will have to complete the installation.

This is one cost, however, which American is not concerned about, for it will be recouped in a short while through added payload.

At present, American has 10 Convairs on active schedules and is serving 15 cities. Nine more will go into use July 1, and service will be extended to 21 cities. After July, the Convairs will be fed into the fleet at the rate of five each month



**Integral Steps in Front**  
Save valuable ground time.

until all 75 have been delivered and all DC-3's retired.

It is estimated that utilization on the 10 ships will average only a little over 5 hours daily this month, but average daily utilization will increase as more Convairs are put into service and is expected to go above eight hours long before the entire fleet is delivered.

Although the ship lands fast (87 to 92 mph, as compared to about 65 mph for the DC-3), the reversible pitch props and the higher power and rate of climb are expected to make it suitable for serving all but one or two of the 60-odd cities now served by DC-3's. In fact, Flight Director Braznell is confident it can serve any airport on the system and comply fully with all safety and operational requirements.

## CIVIL AIR REGULATIONS

### Flight Engineer Proposal

The Civil Aeronautics Board is now proposing to drop the words "solely as a flight engineer" from its recent regulation requiring, after next Dec. 1, a licensed flight engineer on domestic flights in certain types of aircraft. The regulation also would be changed to specify four engine aircraft, with a



## To the Lone Star State

Chance Vought Aircraft, designers and builders of famous Navy aircraft for more than 30 years, will soon have a new address — Dallas, Texas. Necessity for the move is directly related to national defense, plus the pressing need for better flying facilities and better flying weather for the development and testing of high-speed jet aircraft.

The transfer of activities will be gradual, extending well into 1949. Meanwhile every possible effort is pledged to achieve efficient operations in the new plant as quickly as possible.

## CHANCE VOUGHT AIRCRAFT

STRATFORD, CONNECTICUT

ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION

## OPERATIONS-MAINTENANCE

flight engineer required for all aircraft grossing more than 80,000 lbs. at take-off and for smaller four-engine aircraft grossing more than 30,000 lbs., if the Administrator decided a flight engineer was necessary for safe operation of such aircraft.

Effect of these changes to sub-section 61.56 of Civil Air Regulations would be to permit multi-purpose crewmen to hold flight engineer certificates and function as such in domestic operations, and to remove the threat that a flight engineer might later be required for twin-engine aircraft.

Related changes proposed for Part 41 (governing operations outside the U. S.) rule out the possibility of one crewman simultaneously filling two functions for which airmen certificates are required. He may, however, fill such functions one at a time on the same flight. Proposed revision to subsection 41.309 states that where the CAA Administrator has specified the minimum crew for a particular airplane and route or route segment (outside the U. S.) . . . "such requirement shall not be satisfied by the performance of multiple functions by any airmen over such route or route segment." Route segment is defined in a proposed new subsection 41.99 as "any part of a route the limits of which are determined by their relation to, but do not necessarily coincide with, definite navigational fixes."

Industry sources explained that if, for example, a navigator and a radio operator are found to be required over an entire route, it will be necessary to carry two qualified individuals. If, however, a navigator is required only over one portion, and a radio operator over a different portion, it will be possible for one properly qualified individual to do both jobs.

Sub-sections 41.310 (flight radio operator) and 41.330 (flight navigator) would be amended by the new proposal to require certificated crewmen for these posts for flight over any area, route or segment thereof when the Administrator determines that radiotelegraphy is necessary for communication with ground stations, and when celestial or other specialized means of navigation necessary for safe conduct of flight cannot be adequately utilized from the pilot station.

Comments on the new proposals will be considered by the Board if received before July 3rd. In general, they reflect opinions already presented by the industry.

## Engineer Regulation Eased

Requirement that applicants for flight engineer certificates pass knowledge and skill tests in aircraft having four engines and certificated in the transport category has been modified through amendment of Part 35 of Civil Air Regulations. CAB found this requirement to be "unduly restrictive" when applied to airmen who have served as flight engineers on cer-



**Salt and Pepper Dispenser**—Manford B. King, plant maintenance worker at Northwest Airlines' Seattle-Tacoma hangar, puts finishing touches on his machine which takes the hand-labor out of filling salt and pepper shakers for airline passengers' meal trays. Formerly filled laboriously with spoons, the thimble-sized shakers are now loaded in one-tenth the time by King's invention. Driven by an electric motor, inch-square blocks move beneath the long upright feeder tube which deposits shakers in holes drilled in the blocks. Another movement of the blocks brings a shaker beneath a hopper where it is automatically filled with the precise amount of salt or pepper. The machine repeats this process 25-30 times a minute. King devoted eight months' of spare time to the invention.

tain aircraft now used in air carrier operations which have flight engineer stations but which are not eligible for certification under the transport category and do not have four engines.

The amendment established requirements for a limited certificate permitting an airman to serve on such aircraft and accomplish flight engineer knowledge and skill tests on them.

## FLIGHT OPERATIONS

### Lamsa Begins Night Flights

Lineas Areas Mexicanas, S.A., the United Air Lines affiliate in Mexico, this month surmounted a handicap that had been present since it began operations five years ago. On June 1, Lamsa made its first night flight.

Previously, Lamsa had been unable to schedule a north-south flight from Juarez to Mexico City after mid-day because of the fact that there were no lighted airports in Mexico outside of Mexico City. This handicapped Lamsa in competing with American Airlines, which had a flight coming through El Paso, just across the border from Juarez, in the late afternoon and reaching Mexico City at night.

With no assistance forthcoming from the government, Lamsa, backed by United, paid some 15,000,000 pesos (approx. \$3 millions) to install airport light-

ing at Juarez, Chihuahua City, Torreon, La Colorada and San Luis Potosi, and radio-navigation equipment at these points, plus Jiminez and Queretaro.

After training 18 flight crews in night operations at UAL's Denver base, Lamsa inaugurated its first night service, a Juarez-Mexico City flight, via Torreon, with departure from the border at 6 p.m. and arrival in the capital at midnight. Night service to other cities was planned for the immediate future.

Lamsa anticipates gaining a substantial volume of air cargo bound from the U. S. to Mexico City as a result of the recent designation of Torreon as an international airport of entry. Shipments cleared at Torreon avoid the congestion at M. C., where a load of cargo might be held up a couple of days, and thus reach the consignee earlier.

## LANDING AIDS

### New Monitors for ILS

CAA is distributing to its regional offices 70 new type monitors for use in connection with Instrument Landing Systems. The monitors are designed to show approximately a one-fifth degree of change, plus or minus, in the glide path angle. Another 31 units have been ordered by CAA. The new monitor was developed by CAA after experi-

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# AIR views



*"Maintenance of a healthy and expandable aircraft industry is required for national security," concludes a review of our national air policy by the Congressional Aviation Policy Board.*

We in the aircraft industry heartily concur with this conclusion, because we realize the value of *continuity* in this business. And only with Government cooperation can the continuous, large-scale development of aircraft of both combat and transport types be carried on.

We know that continuity of "know-how," when carried from model to model or even on re-orders of the same model, is the largest single factor in the reduction of aircraft costs. And we know there is also pronounced reduction in engineering, development, tooling and manufacturing costs where a program calls for volume production and quantity use of aircraft.

I have always been and continue to be confident about the longer-range prospects for passenger and cargo transportation by air.

In the meantime it would appear sound public policy for the Government to bear a proper share of development and production costs of new air transports and cargo planes, in exchange for the assurance that in an emergency it would instantly have available for defense and military operations, the largest and the most advanced fleets of air transports in the world.

*Douglas*  
Dwight W. Douglas

PRESIDENT  
DOUGLAS AIRCRAFT COMPANY, INC.  
SANTA MONICA, CALIFORNIA

## OPERATIONS-MAINTENANCE

ments at ILS stations revealed lack of a suitable monitoring device. When the glide path angle changes by more than one-fifth of a degree, appropriate warnings are sounded, both in the airport control tower and in the communications center. The monitor measures both signal strength and the glide path angle.

### MODIFICATION

Chicago and Southern Air Lines is not going to make its passengers wait until it is able to purchase new airplanes before showing them a "new look" in flight equipment.

C&S has embarked on a project entailing the complete interior decoration, plus mechanical modifications, of its fleet of 12 DC-3's. Work is being done in the company's overhaul shops at Memphis at a cost of over \$2,000 per plane, and one ship has already been completed.

Before making the changes, some of which involved the pilots' compartment, flight crews were asked for their opinions and suggestions. Stewardesses were consulted on cabin and lavatory arrangements.

With economy the watchword in the change-over, a considerable number of ideas presented by mechanics and crew chiefs were adopted which resulted in sidestepping many of the costs originally considered in the over-all decorating job.

Rather than replace the blue-colored seat covers, which were still in good condition, they are being dyed to match the green seat covers of the company's DC-4's. Seat belts will be dyed the same color and the seat frames were painted green. The brown leather armrests are being replaced with grey Avtrrim.

The kickplates on the back framework of the seats, which had been cloth-covered and consequently subjected to considerable wear by passengers' feet, are being replaced with aluminum pyramid material. The metal seat trim, which would have cost \$12 per seat if purchased from the original manufacturer, was bought on the open market at a cost of 72 cents per seat. The blue window frames and blue wainscoting are being painted green. The molding of the fabric headliner was removed and the headliner refinished in grey to match the DC-4 fleet.

Grey Avtrrim, cushioned with latex-hair padding, replaces the beige carpeting. Besides being lighter in weight than the old-type carpet, the Avtrrim is easy to clean, is shock-absorbing, is fire resistant, and does not absorb moisture. The beige-colored lavatory is refinished in peach on the upper walls and in rust below the wash basin level.

The cockpit has been reupholstered with green and grey Avtrrim and new soundproofing was placed in this area as well as the companionway.

Double radio masts, which had given



**Seat Tester**—Greater passenger comfort is built into Boeing Stratocruisers through live-rubber suspension for chairs. Here the seats are tested on a vibrator which duplicates flight conditions.

trouble due to breaking of the mounts, were changed to a single-type mast. Because a high percentage of delays experienced during the winter months are due to freezing of the boiler-type heating system, C&S engineers designed and installed a 100,000 B.T.U. gasoline heater for the DC-3's. It is similar to the heater used in the C&S DC-4's.

### RESEARCH

#### Where There's Smoke?

The industry's troubles with photoelectric aircraft smoke detectors have been turned over to the National Bureau of Standards, which is attempting to determine whether existing types are adequate to meet CAA requirements. When the Bureau of Standards study is completed, CAA will decide whether its requirements (Technical Standard Orders C-1 and C-1A) need revision.

Meanwhile, some but not all airlines have requested and received permission from CAA regional offices to disconnect their smoke detectors. CAA in Washington gave the regions authority to do this after accumulating reports on nearly 400 false alarms during recent months. Most such false signals appear to have resulted either from airborne dust or from voltage fluctuations in the aircraft electrical system.

Monoxide-type detectors, which meet CAA specifications but have been less widely used than photo-electric detectors in domestic operations, have not been reported troublesome and are involved in the Bureau of Standards study only to the extent that the manufacturer, Mine Safety Appliances Co., has made instruments available for comparative analysis.

The whole problem is supposed to be settled by August 1, the expiration date for CAA permission to disconnect faulty instruments.

## SAFETY

## 24 Lines Win 1947 Awards

Twenty-three U. S. air carriers completed their last year's scheduled passenger carrying operations without a passenger or crew fatality, according to the National Safety Council's 1947 aviation safety awards announced on June 3.

Further than that, 15 of the safety award winners not only went through 1947 without a passenger or crew death but had completed fatality-free records ranging from two to 18 years. Two of the 23 honored carriers—American Airlines and Northwest Airlines—had flown more than a billion miles since their last fatal accidents. A 24th carrier, Pan American Airways, was honored for having passed the billion-mile mark before its no-fatality record ended in 1947.

All awards were made on the basis of official records of the Civil Aeronautics Board, and total miles used were those accumulated in scheduled passenger carrying operations only. Safety records of the 24 U. S. award winners at end of 1947 follows:

Carrier	Passenger Miles Operated With-out Fatality	Date of Last Fatal Accident
American	1,502,499,000	Dec. 28, 1946
Amer. Overseas	206,385,000	Oct. 3, 1946
Brannif	900,125,000	Mar. 26, 1939
C&S	546,763,000	Aug. 5, 1936
Colonial	180,997,000	Apr. 18, 1930
Continental	262,593,000	May 1, 1935
Delta	733,325,000	Aug. 14, 1935
Inland	101,304,000	Apr. 1, 1931
MCA	282,622,000	Nov. 15, 1934
National	368,500,000	Oct. 5, 1945
Northeast	244,558,000	Aug. 1933
Northwest	1,228,804,000	May 12, 1942
Pan American <sup>1</sup>	1,443,699,000	.....
Panagra	413,754,000	Jan. 22, 1943
UMCA <sup>2</sup>	10,117,000	.....
Western	174,332,000	Dec. 24, 1946
Caribbean <sup>3</sup>	13,437,000	.....
Hawaiian <sup>4</sup>	174,817,000	.....
Empire <sup>5</sup>	3,491,000	.....
Florida <sup>6</sup>	1,049,000	.....
Monarch <sup>7</sup>	4,872,000	.....
Pioneer <sup>8</sup>	25,727,000	.....
Southwest <sup>9</sup>	16,106,000	.....
West Coast <sup>10</sup>	5,220,000	.....

<sup>1</sup> Miles between Aug. 3, 1945, and June 14, 1947.

<sup>2</sup> No fatalities since establishment CAB records in 1940.

<sup>3</sup> No fatalities since establishment of records with CAB in 1942.

<sup>4</sup> No fatalities since its establishment in Nov., 1929.

<sup>5</sup> No fatalities since establishment Sept., 1946.

<sup>6</sup> No fatalities since establishment Jan., 1947.

<sup>7</sup> No fatalities since establishment Nov., 1946.

<sup>8</sup> No fatalities since establishment Aug., 1945.

<sup>9</sup> No fatalities since establishment Dec., 1946.

<sup>10</sup> No fatalities since establishment Dec., 1946.

**Static Discharge Wicks:** Cotton fibre "static discharge wicks" have been installed as standard equipment on all Capital Airlines aircraft as a part of the line's safety program. Fifteen of the wicks are attached to the trailing edges of wings, horizontal and vertical stabilizers and the tail of each plane for the purpose of eliminating static interruptions in radio reception.

June 15, 1948

## SAFETY SLANTS

**M** AINTENANCE men are ever conscious of the hazards that the handling of gasoline and other volatiles such as paints and solvents create. They take precautions to prevent fires and to protect against those that occur. There are, however, many other chemicals used in aircraft maintenance that offer hazards other than fire. For example, almost any of the well known cleaning agents, not to mention some acids and caustics, in common use in aircraft maintenance bases and overhaul shops, could cause serious trouble if an employee got some in his eyes. The obvious way to prevent such trouble is to require anyone handling such materials to wear tight fitting "chemical" type goggles. Suitable goggles of this type are made by a number of manufacturers of personal protective equipment. If in doubt, ask any safety engineer.

The list of chemicals bought for aircraft and aircraft engine maintenance shops includes such items as acids—sulfuric for batteries, Hydrofluoric for plating; cyanides for heat treating; anti-icing compounds; alkalies and caustics for cleaning; chlorinated hydrocarbons for degreasing; carbon tetrachloride for fire extinguishers and cleaning use; dry-ice for shrink-fitting—the list is seemingly endless.

Access to the various types of products should be strictly controlled and storage should be planned so that spills of materials that could react harmfully—for example, acids and alkalies—cannot occur. Personnel handling these materials should be provided with proper gloves, aprons, face shields and goggles; neutralizing agents such as vinegar and bicarbonate kept available and a plentiful supply of water provided. Specific handling instructions should be issued and emergency precautions taught. Check up once in a while to see that everyone is up to date. Then sit back and relax!

While the jet engine eliminates the whirling prop, it adds a few troubles of its own. The tremendous intake suction tends to draw everything into the engine. A man too close to the intake would be in danger. Of course, the other end bites, or rather scorches, too. The red hot exhaust is low down and right at the tail or the trailing edge of the wing.

The Convair's exhaust is in new position for transport planes and ramp personnel are warned to stay clear of the area back of the engine nacelles. At least one mechanic has been slightly burned because he failed to watch his step.

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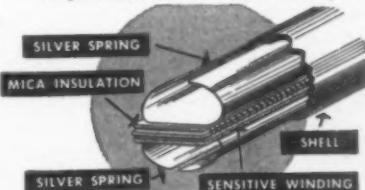
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**MCA Shows 5-Star Gains**

Among its other accomplishments Mid-Continent Airlines' 5-Star Program succeeded well in making the line's 1,070 employees on-time conscious, for the record showed that four MCA stations reported no flight departure delays in the entire month of April, and 21 of the 29 stations had an on-time record of better than 90%.

The 10-week program, a system-wide drive with improved schedule reliability and passenger service as its primary objectives, ended on May 15. Comparative records for April and March—the two full calendar months of the campaign—showed that 24 of the stations marked up schedule reliability gains for April over March, while the system on-time record showed an improvement of 6.9 percentage points—87.5% against 80.6%.

With more than 4,500 scheduled departures, any one of which was subject to numerous delay-causing factors, only 558 delays were recorded in April, as against 818 delays in March. Besides the 24 stations which improved their reliability record in April, there were two others whose records remained unchanged. Only three had failed to do as well.

Bulk of the 558 delays in April were beyond the control of personnel, with weather and airways traffic as leading causes, according to Ralph E. Wilson, chairman of the program.

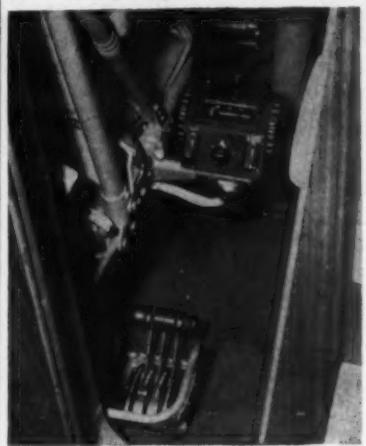
The four stations with 100% reliability records for April were Longview, Tex.; Ottumwa, Ia.; Paris, Tex., and Texarkana. The last named station chalked up 100% on-time departure records for both months. In addition, nine other cities on MCA's system had on-time records of 95% or better in April. These were: Aberdeen, Bismarck, Huron, Joplin, Muskogee, Rochester, St. Joseph, Sioux City, Shreveport, Waterloo and Watertown.

Operating efficiency of the company's aircraft kept pace with the improved ground handling in April, MCA completing 656,185 of its scheduled 657,120 miles for a score of 99.86%.

Results of the final two weeks of the campaign had not been compiled, but company officials were sure the record would be as good as in April, if not better.

The 5-Star program, which used the slogan "Our Service is Showing," included a clean-up and paint-up campaign, improved courtesy and standardized procedures, in addition to elimination of schedule delays. So well did it work that a number of Mid-Continent stations already have acted to make their own efficiency committees permanent and have established suggestion plans as part of a year-round program.

**Four-Month Record:** Because so many things can happen to delay an



**Convenient**—Unusual automatic pilot installation is this made in the Grumman Mallard by Sperry Gyroscope Co. The A-12 gyro-pilot pedestal controller swivels under the pilot's seat when not in use. This is in one of two Mallards headed for Borneo for operation by an oil company.

aircraft departure, the record of Continental Air Lines station personnel at Oklahoma City in going four months without a ground delay was no mean feat. Credit for this accomplishment, which involved the handling of nearly 500 plane arrivals and departures, was due Station Manager James P. Claybrook and his four flight service agents.

**NEW EQUIPMENT****New Hydraulic Hose**

A new hydraulic hose designed to withstand the 3,000 or more pounds of working pressure required to operate the landing gear, flaps and other mechanical devices on large new transport planes has been developed by The B. F. Goodrich Company.

Special steel wire used in construction of the hose has a tensile strength of over 400,000 pounds per square inch, and tests have shown that the hose can withstand pressures far in excess of those needed in operation.

**Stronger Safety Belt**

A new two-inch, spring-load safety belt for plane passengers has been developed by the B-N Corp., of Los Angeles, which has contracted with Pacific Airmotive Corp. for distribution of the device. It is claimed the belt fulfills the requirements recently proposed by the National Aircraft Standards Committee, being not only flame-proof and mildew-resistant but exceeding the required margin of strength through the use of treated yarns in the webbing, giving it 6,000 pounds of tensile strength. If the NASC standards are modified in the forthcoming Technical Service Order, B-N Corp. will make both types.

3

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In order to maintain supremacy for today's finest transport, Lockheed's engineering laboratories conduct a continuing development program in behalf of the Constellation. Thus, every Constellation in service may keep abreast of the ones most recently produced.

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# LOCKHEED CONSTELLATION

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## OPERATIONS-MAINTENANCE

### New Gust Lock Release

Automatic Airmail Corp. of Wilmington, Del., formerly of Lost Nation, Ia., has demonstrated to the Air Force, Navy and CAA officials a new gust lock release for DC-3 and smaller military and civil aircraft. The device is designed to avoid any possibility of accident due to failure to remove the gust lock from wing and tail surfaces. In a take-off, the force of the wind blows open flanges which release the gust lock.

### Daily Plane Utilization International

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American		
2 eng. pass. ....	9:25	....
4 eng. pass. ....	9:09	8:14
cargo .....	9:03	8:17
Amer. O'Seas		
2 eng. pass. ....	1:50	2:00
4 eng. pass. ....	4:34	5:08
C & S		
4 eng. pass. ....	6:40	6:41
Colonial		
4 eng. pass. ....	4:15	5:00
Eastern		
4 eng. pass. ....	9:23	8:17
National		
4 eng. pass. ....	8:52	1:55
Northwest		
2 eng. pass. ....	4:31	4:14
4 eng. pass. ....	7:35	8:22
Panagra		
2 eng. pass. ....	4:51	4:51
4 eng. pass. ....	7:37	7:40
cargo .....	1:55	1:10
Pan American		
Latin Amer.		
2 eng. pass. ....	6:47	6:14
4 eng. pass. ....	9:17	8:58
cargo .....	3:32	7:20
Atlantic		
2 eng. pass. ....	3:09	3:20
4 eng. pass. ....	5:25	5:39
cargo .....	2:08	3:21
Pacific		
4 eng. pass. ....	9:54	8:50
cargo .....	9:50	11:36
Alaska		
2 eng. pass. ....	2:12	4:06
4 eng. pass. ....	7:01	8:51
TWA		
4 eng. pass. ....	8:07	8:19
cargo .....	7:04	6:17
United		
4 eng. pass. ....	7:58	7:51

### Feederlines

All American		
Stinson SR-10-C ...	3:44	2:49
Beechcraft D-18-C ..	2:33	5:55
Challenger (DC-3) .....	5:59	6:14
Empire (Boeing 247-D) ....	7:36	7:33
Florida (Beechcraft D-18-C) ...	5:10	5:23
Monarch (DC-3) .....	5:48	5:20
Piedmont* (DC-3) .....	....	3:32
Pioneer (DC-3) .....	6:05	5:24
Southwest (DC-3) .....	4:15	4:35
Trans-Texas (DC-3) .....	7:00	5:56
West Coast (DC-3) .....	4:09	5:06
Wis. Central** (Lockheed 10A) ....	....	1:46

\* Began operations Feb. 20, 1948

\*\* Began operations Feb. 24, 1948

## AIR TERMINALS

### Storm Over Idlewild

After years of work and the expenditure of some \$60 millions, the sprawling New York International Airport (Idlewild) was about ready for limited use, and the Port of New York Authority still had not told the airlines under what terms and conditions they would be permitted to use the new facility. As time for opening of the field drew nearer, airline apprehensions mounted. Then came the announcement, and it was not good from the airline point of view.

To all domestic and overseas air carriers serving the New York area, PNYA Chairman Howard S. Cullman sent a schedule of charges adopted by the Authority's Board of Commissioners for the use of public landing, ramp and apron areas, and public aircraft parking and storage areas at New York International, as well as charges for incinerator and porter service and for mail-handling and Federal inspection service space.

Cullman said that under the schedule the airlines "will pay no more than their fair share of the Authority's costs of providing the landing area for their aircraft." As a matter of fact, he said, the Authority will have to absorb substantial amounts of landing area costs during the traffic developmental period (about five years), and meanwhile will hold airline charges to a minimum by aggressive development of non-flight revenues at the airport.

Flight fees would be assessed at the rate of \$.0001076 per pound of maximum take-off weight of aircraft, with a minimum \$2.50 take-off charge. This fee will cover the departure, the preceding landing and the first 12 hours of open storage following the preceding landing of the aircraft.

Under these fees, Cullman said, carriers with a small number of departures per day, such as the foreign-flag carriers who have been invited to use the field from its opening on July 1, will pay less than they do at LaGuardia Field. This was in line, he added, with the Authority's policy of not discriminating as between large carriers and small carriers, as between foreign-flag carriers and U. S.-flag carriers, or as between original users and later users of an airport.

He pointed out that this would correct such inequities as have existed at LaGuardia, where one large domestic carrier pays an average of less than \$2.00 per departure, while another pays almost \$10.00, and where among users of DC-4 equipment the domestic carriers pay about \$5.00 per departure, overseas carriers about \$15.00, and non-scheduled and contract carriers about \$52.00.

The United States, Cullman asserted, is the only country in which airline flight fees are based on aircraft schedules, the almost universal practice being to base such fees on maximum take-off weight.



### Chicago Dedication

Chicago Municipal Airport's new terminal, which has been in use for more than a year, was officially dedicated June 6. One of the busiest air centers in the world, the city is served by 10 airlines with 360 scheduled flights in and out daily.

Details of other charges listed in the schedule are as follows:

**Public Ramp and Apron Area:** For each aircraft using the portion of the public ramp and apron area designated by the Authority for loading or unloading passengers, whether or not passengers are actually loaded or unloaded—the fee for each terminating arrival is 35c for the first 30 minutes or less with an additional fee of \$2.50 for each additional 30 minutes or less; for each originating departure, 75c for the first 60 minutes or less and \$2.50 for each additional 30 minutes or less that the aircraft is on this public area; and for through flights, 75c for the first 60 minutes or less and \$2.50 for each additional 30 minutes or less.

**Public Aircraft Parking and Storage Area:** No charge for the first 12 hours spent by aircraft on the public parking and storage areas, and for each 12 hours or less in excess of the free period charges will range from \$1.00 for aircraft not exceeding 10,000 lbs. in maximum gross take-off weight to \$4.00 for aircraft exceeding 125,000 pounds but with less than 150,000 lbs. of maximum take-off weight.

**Incinerator Service:** A charge of \$3.50 for each aircraft arrival serviced by the Authority for the incineration of condemned cargo.

**Inspection Space:** For each passenger disembarking from an aircraft and using space made available for the inspection and examination of aircraft passengers and their property by Customs, Immigration, Public Health, etc., a charge of 43c.

**Porter Service:** For each passenger embarking or disembarking from an aircraft (whether or not such passenger actually uses porter service), a maximum charge of 37.5c per passenger during the first six months, after which the price will be adjusted on the basis of the average cost of porter service during the fixed six-month period, plus 25% for overhead and 3% interest and amortization on the cost of equipment and necessary installations, with 37.5c as the maximum.

**Mail Space:** After two months, the Authority will charge a per-pound mail service fee on all incoming and outgoing mail to cover the cost of providing space in which to service mail.

For most of the charges enumerated above, the rate basis includes: a pro rata share of the Port Authority's general overhead; a pro rata share of the Authority's fixed rental obligation to the City of New York; a pro rata share of the Authority's departmental expenses directly attributable to airports; estimated maintenance and operation costs attached to the space or service performed; and the 3% interest and amortization charge.

As of last week, the airlines had not made public their feelings with regard to the schedule, but they were reported

to be preparing their opposition. There were several features of the Port Authority's proposal that the airlines didn't like, chief of these being the fact that the charges would be flexible and subject to change on a year-to-year basis at the whim of the Port Authority. In other words, the carriers would not be permitted to sign leases such as those under which they now operate at LaGuardia Field and therefore would be unable to estimate their costs for any fixed period with any degree of accuracy.

They didn't like, either, the Authority's insistence of a central gasoline distributing system at New York International, which would deprive them of all freedom of action with regard to gasoline purchases.

What would happen next in the New York situation was highly problematical, but it was apparent that an explosive situation was in the making. The blow-off might well come on or before July 1, by which date the foreign-flag airlines have been ordered to move from LaGuardia to New York International.

Despite the rate reductions offered by the Authority, these carriers are not wont to make the change, objecting to International's remoteness, to the partly-finished state of some facilities, and to the fact that competing American carriers will be at LaGuardia for another year or more.

As for the U. S. carriers now at LaGuardia, both the domestic and the international operators, they are expected to resist efforts to make them move to International on the Authority's announced terms. They fully expect the Authority to try to force them to move by cancelling their present leases at LaGuardia, which still have some years to run, but some were talking of making court tests of these leases.

### 120 Planes per Hour

The Douglas airfield on the northwest side of Chicago will have a capacity of 120 plane movements an hour by 1951 equal to that of the present Chicago Municipal Airport, according

## AIR TERMINALS

to Ralph H. Burke, city airport consultant.

Ultimately, the Douglas airport is scheduled to have a capacity of 360 plane movements an hour. When finished, it will cost approximately \$75,000,000 and will be one of the world's largest airports. It will have 10 tangential runways ranging from 7,176 ft. to 10,000 ft. in length and its 1,080 acres will be expanded by another 5,800 acres.

In the first stages of construction, to be completed by 1951, only two of the final runways will be added to the three 4,500 ft. concrete strips that are now usable. Two railroad lines first must be moved. One is a 1.5 mile section of Northwestern tracks, which will be shifted half a mile westward, and the other involves rebuilding a short section and crossing of the Milwaukee road. These are expected to be completed by the summer of 1949, which will enable construction of the runways and work on the new central terminal to start at that time.

Federal funds totalling \$4,600,000 have been allocated to date by the Civil Aeronautics Administration for the Douglas airport. Of this amount \$2,600,000 has just been turned over to the city of Chicago. The second \$2,000,000 is in the budget for the 1948-49 fiscal year. The city now is offering for sale \$12,500,000 worth of airport bonds voted in 1945 and intended to secure funds to match the federal funds. In addition, state appropriations have been promised. Land acquisition for the super-terminal is expected to cost about \$7,100,000.

Building of the Douglas airport will be coordinated with plans for a super-highway to speed travel between the city and the airport.

Meanwhile, several of the airlines serving Chicago are making plans to use the Douglas airfield as an alternate or co-terminal this winter to relieve the traffic congestion at the municipal airport. The plans include the scheduling of some regular flights to and from the Douglas field. By dividing schedules between the two airports it is estimated that the period it may be necessary to hold an incoming flight in instrument weather can be reduced from an hour and a half to half an hour.

### CAA Orders AGA Lights

American Gas Accumulator Co. of Elizabeth, N. J., has been awarded a contract by CAA for installation of high-intensity approach lights at Washington National and Los Angeles Municipal Airports. The contract calls for delivery of 61 of the lights in September at cost of \$700 each.

These installations will be the first for regular civilian aviation use, although several experimental and military high-intensity systems have been in operation for some time. Used in conjunction with ILS, the lights will enable pilots to orient themselves in the final stages of low visibility approaches.



AGA Hi-Intensity Lights  
CAA orders 61 for September

The lights include a new type of optical system consisting of ground and polished glass and molded red plastic lenses, each light equipped with a 5-kilowatt incandescent lamp. The system comprises a 3,000-ft. row of lights, spaced at 100-ft. intervals, extending out from the approach end of the instrument runway.

CAA plans to install the lights at other ILS-equipped airports when funds are available. If other necessary equipment can be delivered in time, the installations at Washington and Los Angeles will be ready for use late this fall.

### FIDO Contract to Bechtel

Contract for installation of the FIDO fog dispersal system at Los Angeles Airport has been awarded to the Bechtel International Corp. on its bid of \$820,000. Construction will begin as soon as minor contract details are worked out and the FIDO should be ready for operation within six to eight months, depending upon availability of materials, according to Robert L. Smith, president of the Board of Airport Commissioners.

Although the lowest received, the Bechtel bid was slightly in excess of the anticipated cost and requires some change in financing plans. The cost will be shared by CAA and the airlines using the airport. The city will advance the money for the airlines who will reimburse the municipality for the initial expense over a period of five years. The airlines also will pay cost of maintenance and operation.

### Schipol's Comeback

Amsterdam's Schipol Airport was on its way to becoming one of the world's greatest civil air facilities when World War II came to Europe. By V-E Day all its hangars and buildings had been destroyed and its runways and aprons

were pockmarked with 220 bomb craters. Schipol was a shambles. Today it is making a spectacular comeback.

Indicative of the present and growing importance of the field is the recent report that in the first quarter of 1948 it handled 43,718 inbound and outbound passengers, representing an increase of 80% over the first quarter of 1946 and 57% over the comparable 1947 period. The first quarter mail volume of 404,596 kilograms was 143% above that for the same three months of 1946, and the cargo volume of 976,607 kilograms was up 264% over 1946 and 108% over the 1947 first quarter. Landings and take-offs of scheduled air carrier aircraft numbered 5,203 in the first three months this year, as compared with 3,732 in the like period last year and 2,620 in 1946.

With the advent of summer schedules recently, the daily average of in- and outbound scheduled aircraft rose to 75 per day, including a number of trans-Atlantic and intercontinental DC-4 and Constellation schedules. In addition to KLM Royal Airlines, Schipol now is served by 10 foreign air carriers to virtually all major European cities outside the Iron Curtain, to Scandinavia, and Great Britain, and to such scattered global points as Calcutta, Singapore, Bangkok, Rio de Janeiro, Casablanca, New York, Curacao and Johannesburg.

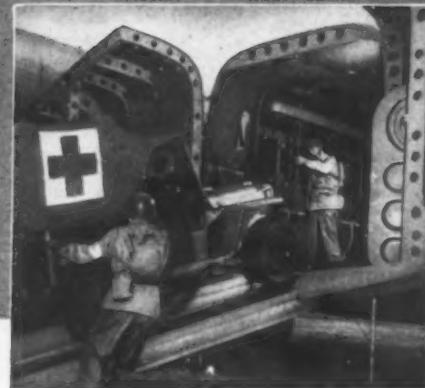
The field's landing area is being increased this year from 690 to 1,240 acres. Four asphalt runways, including a 7,050-foot NE-SW instrument runway, are now in use and two additional runways of more than 6,000 ft. in length are under construction. More than 186 miles of pipes provide an adequate drainage system. Six hangars with total floor space of 151,000 sq. ft. (about 2/3 of pre-war capacity) already have been erected, with others soon to be built. Newly-erected technical and other buildings comprise 198,000 sq. ft. of floor space, to be increased this year to 287,000.

A spacious terminal building (124,000 sq. ft. of floor space) is now under construction, and a modern control tower will be atop this. An additional 150,000 sq. ft. of space for service, offices and workshops is contained in a temporary village of sheds in the so-called Liberty Street area of the field on the SE border of the apron.

**N. Y. Airport Map:** A new airport map and directory issued by the New York State Department of Commerce shows the location of 290 airports in the state in relation to county lines, principal waterways, cities and villages. Names of 72 communities already air-marked in cooperation with a state program are underscored on the map in red. The reverse side lists names of airport operators and managers, descriptions of landing strips, fuel supplies available and other pertinent information. Copies may be obtained free from Dept. of Commerce, 112 State St., Albany 7, N. Y.



## Pattern for Swift Mobility



Speed is a prime essential in the modern concept of military maneuver. And speed, today, has to have wings.

In cooperation with the Air Forces and the Ground Forces, Fairchild research and engineering skill help provide those wings.

The rugged, hard-working C-82 Packet is now in service with the Troop Carrier Command as the standard transport for troops and guns, trucks and

supplies. Its fitness for this important assignment was demonstrated in practical maneuvers such as Operation Yukon and Exercise Snowdrop.

Now, Fairchild engineering ingenuity has created the C-119—a new Packet that flies faster and farther and carries an even greater load.

In these two airplanes our military minds have found new answers to old problems, and around them have built a new pattern for swift mobility.

 **Fairchild Aircraft**

Division of Fairchild Engine and Airplane Corporation, Hagerstown, Maryland

### Cargo Rates Go In July 1

New minimum cargo tariffs, which were first ordered by CAB on April 22 and were met with prompt objections from half a dozen carriers, were reaffirmed by the Board on June 3, to become effective July 1.

They prescribe a minimum rate of 16c per ton mile for the first 1,000 ton miles of any shipment, and 13c per ton mile for volume in excess of 1,000 for any shipment. Any company would be permitted, however, to ask for rates below the floor levels if it thought a lower rate was needed to attract a new type of business or if a lower rate would help iron out "inequities or disparities within the rate structure." The Board made it clear that it would scrutinize closely any such applications for lower rates.

Immediate effect of the Board's action is to require cancellation of all air cargo tariffs inconsistent with the prescribed minimums and the filing not later than June 20 of new tariffs at or above the 16-13 minimums. CAB said it expected the carriers to work out rate structures above the new minimums, which are not below present costs but are below costs which it feels might be attained in the foreseeable future by managerial economies.

In reaffirming the rates, CAB said its original decision "adequately disposes of most of the points raised by the carriers' exceptions." To the certificated airlines' objection that CAB had neglected "value of service considerations" in setting its rate floor, the Board replied that such considerations are of some importance in developing rate structures but that cost considerations are of primary importance in establishing minimum rates.

"The minimum rates prescribed by our decision will provide carriers with sufficient freedom to employ value of service considerations above the minimum rate level justified by cost considerations," said the Board. "Indeed, we expressly indicated that such rates must be established if air freight is to develop on a sound financial basis."

Major objection of the certificated airlines—American, Eastern, Capital, United and TWA—was to the volume rate break, which they claimed would give freight forwarders a "dominant position." CAB replied that its differential was based primarily on costs and not on its possible effect on forwarders, whose status, it said, would be decided in the Freight Forwarder Case in the near future.

In reply to Slick Airways' exception to its failure to announce that freight losses cannot be compensated for by mail pay, the Board said the minimum rate case was not a proper proceeding "to serve as a vehicle for the announcement of principles to be followed" in mail pay cases.

In response to a suggestion of American Airlines that door-to-door cargo



**Air Cargo Jam**—The huge air cargo warehouse of Pan American Airways at Miami was jammed with southbound shipments as exporters rushed to beat the June 1 deadline set by Colombia for rigid import controls. In last two weeks of May, PAA planes flew 642,789 pounds of cargo from Miami to Latin America—more than the PAA total for the six years 1932 through 1937 at same gateway. Colombia now requires licenses and consular visas for all imports, except such items as periodicals, drugs, serums, machine parts and instruments, automotive and agricultural implement parts.

rates might be used to conceal violations of the prescribed minimum, CAB ruled that pick-up and delivery charges shall be in addition to airport-to-airport rates and "separately stated in the tariff."

Disposing of the objection that the rate break would hurt short-haul shippers and carriers, Board reiterated that the break was based on costs and that it would not be justified in "permitting uneconomic rates to become imbedded in the air transport system for either short-haul or long-haul traffic."

The Board said the question as to whether any carrier might meet a modification of minimum rates secured upon application by another carrier would have to be decided in some subsequent proceeding on a petition for modification.

### 17 Lines Lease AF C-46's

The Air Force has approved the requests of 17 air freight carriers and scheduled airlines for leasing varying numbers of Curtiss C-46 cargo planes out of its storage stock at \$300 per month per plane. A total of 76 planes have been leased thus far and leases for an additional 24 are pending approval. About 30 of the aircraft have actually been delivered. The Air Force has between 400 and 500 C-46's in storage.

Carriers and number of planes on lease are: Slick Airways, Inc., 10; Sky-

ways International Trading and Transport Co. of Miami, Fla., 6; Trans-Caribbean Air Cargo Lines, Inc. of New York, 2; National Air Lines, Inc. of Miami, Fla., 2; U. S. Air Lines, Inc. of St. Petersburg, Fla., 5; Globe Freight Airlines, Inc. of Hartford, Conn., 3; Alaska Airlines, Inc. of New York, 6; Air Transport Associates of Seattle, Wash., 3; Aviation Corp. of Seattle, Wash., 3; California Eastern Airways, 10; Continental Charters, Inc. of Miami, Fla., 2; Pan American Airways, 12; Seattle Air Charter, Inc., 2; Condor Lines, Miami, Fla., 2; Freight Air, Inc., Miami Springs, Fla., 2; Miami Airlines, Miami, Fla., 3; Air Transport Service, Miami Springs, Fla., 3.

### No Slack for Slick

Slick Airways, benefitting from a general upturn in business in the past month and from suspension of operations by California Eastern Airways, has increased its cargo schedules to 14 flights nightly (seven trips in each direction). The company is now operating two flights in each direction between the east and Texas, two between New York and Los Angeles, one between Chicago and Los Angeles, one between New York and San Francisco, and two round-trip shuttles between New York and Chicago.

Slick flew 3,000,946 revenue ton-miles of cargo last month to shatter the previous record of 2,519,871 last October.

## Uniform Tickets Rejected

IATA resolutions proposing uniform passenger tickets, baggage checks, and air waybill-consignment notes have failed to get CAB approval. The Board stated it was "fully sympathetic with the objectives of the proposed agreements to obtain uniform tickets and air waybills for use by all IATA carriers" but that some of the proposed conditions of contract were "contrary to fundamental public policy of the U. S." and therefore could not be approved.

Chief stumbling block appeared to lie in the "conditions of contract" which appear on the backs of international airline tickets. In the past, these conditions have varied considerably from carrier to carrier and IATA's attempt to make them uniform was favorably regarded in many quarters. CAB's objection was to particular items in the stipulated conditions, particularly those relating to a carrier's liability to third parties—shippers, passengers, etc.

CAB's refusal to approve the resolution does not mean that uniform tickets and waybills have been permanently killed, one spokesman explained; if suitable conditions are included, CAB very likely will approve the arrangements.

Carrier liability in air transport became a complicated problem because of diverse local laws. CAB said it favored international agreement on such matters but felt that it would be more appropriate to reach such agreement "through negotiations by government representatives in the International Civil Aviation Organization or otherwise in the form of an international convention." The Warsaw Convention is the major existing international agreement covering carrier liability, but not all nations adhere to it.

## American's Convair Barrage

American Airlines had waited a long time for modern, efficient replacements for its reliable but outmoded DC-3 aircraft, and when the date was finally set for introduction into service of the new 40-passenger Convair Flagship, American was determined that the event should not go by unnoticed by the traveling public.

Result of this determination was one of the most comprehensive advertising campaigns ever put on by an airline, a campaign utilizing 44 daily newspapers and a number of radio stations in the 15 cities scheduled to get initial Convair service on June 1.

The campaign started off May 10 with the first of a series of one-column, two-inch "teaser" ads proclaiming the simple fact that **AMERICAN'S CONVAIRS ARE COMING!** Two ads of this type were run in the 44 dailies every day for two weeks as a build-up to full-page layouts to be published May 25 or 26 in each of the papers.

The full-page advertisements were identical except for the introductory



Newspaper "Teaser" Ads

(Build-up to inauguration day.)

line, which varied according to which city a given newspaper was published in, exclaiming in large black type "Now Coming to Chicago!" or "Now Coming to Washington!" Features of the ad included: a large artist's drawing of the Convair, a cutaway calling attention to such special features of the new plane as the self-service baggage shelves and the pressurized cabins, and the Convair schedule time between various key cities.

Climax of the newspaper campaign came on June 1, the day Convair service was inaugurated in the 15 cities, when 1,000-line ads in each of the 44 newspapers dramatized the fact that the Convair at last had arrived. These were followed up by 300-line ads which were run twice during the period June 1-15.

Supplementing all this newspaper advertising was a five-week program of one-minute "spot" announcements and



Magazine Approach

Told Convair story to millions.

chainbreak announcements over radio stations in the 15 cities, featuring the Convair. This program, entailing as many as 12 announcements a week over some of the major stations, is continuing until the last week of June.

Finally, full-page advertisements calling attention to the good points of traveling by Convair were inserted by American this week in such nationally-circulated magazines as *Life*, *Time*, *Collier's*, *Look*, and *Saturday Evening Post*.

## TWA Sleeper Service

Trans World Airline will offer sleeper service to trans-Atlantic passengers when it places the first of its 12 new Lockheed Constellations in service June 15. Facilities will be limited at first because of heavy summer bookings, and berths in the first seven of the Connies may be obtained only at departure time or in flight, depending on availability of space.

The sleeper service will be available between New York, Philadelphia, and Washington terminals and Shannon, Paris, Lisbon at the established rate of \$125 above the regular fare. The remaining five Connies will be added to TWA's trans-Atlantic fleet later this summer.

## NWA-Steamship Pact Approved

An agreement which makes the American President Lines, steamship company, general agent for Northwest Airlines has been approved by CAB. APL will sell exchange orders for passage over NWA in certain of its offices covering most of the Atlantic and Pacific areas. NWA is made representative for the steamship company to perform these same services.

CAB pointed out that NWA is not placing "exclusive reliance" upon a competing surface carrier for traffic solicitation, but will maintain its own sales system. Several months ago the Board disapproved a Pan American Airways-U. S. Lines agreement because it said the pact provided such exclusive reliance.

## SALES PROMOTION

### Traffic Guide Contest

Continental Air Lines wondered just how much travel agents and employees of other airlines know about the vacation and tourist attractions on its routes. To get this information, it launched a picture-identification contest in the June issue of the *American Aviation Traffic Guide*, using a full-page advertisement to explain the contest and to print a picture of a vacation spot somewhere on the Continental system.

Reservations, ticketing and other airline personnel, other than employees of Continental, as well as travel agents and others who have access to copies of

## TRAFFIC & SALES

the *Traffic Guide*, are eligible to enter the contest. Cash prizes of \$25, \$15, and \$10 are offered for the three best entries which, in 50 words or less, describe the spot pictured and tell how to get there by air. Entries will be judged on the basis of accuracy of description and location; accuracy of round-trip airline schedules submitted, based on schedules listed in the *Traffic Guide*, and originality of presentation.

Entries must be postmarked not later than the 20th of the month in which the picture to be identified appears. A new picture will appear each month, and new prizes will be offered. The correct name and location of the spot pictured in the current issue of the publication will appear in next month's ad.

## PAA Tries Tip-Slip Contest

On the theory that employees would be stimulated to tip off the sales department regarding prospective passenger or cargo business if some inducement such as the possibility of winning an all-expense vacation trip to Buenos Aires were offered, Pan American Airways' Latin American Division is conducting a Tip-Slip sales contest that will end Sept. 30.

All employees are eligible in two divisions—non-traffic and sales and traffic and sales—with three duplicate prizes in each division. Stations are divided into three classifications, according to revenue production, to make the competition evenly matched. A total of 18 free trips will be awarded, with six going to each classification.

First prize is a free pass to any LAD destination with \$15 a day expenses for 10 days. Second prize is a free vacation pass to any LAD destination. Third prize is a free week-end pass. All prizes include not only the winners but also their wives, or husbands, as the case may be.

Entries are made by turning in Tip-Slips, which are convenient forms for telling the Sales Department about prospective travelers or shippers.

## NEW SERVICES

### Domestic

Braniff Airways on June 4 inaugurated several new domestic flight schedules, including the first DC-4 service into Colorado Springs and Denver from Dallas and other Texas points, a combination passenger-cargo service from Dallas to Chicago, and a breakfast flight from Chicago to Kansas, Oklahoma and Texas points.

Capital Airlines expects to inaugurate service into Reading and Philadelphia shortly after July 15.

Eastern Air Lines started serving Augusta, Ga., on June 1 with one schedule daily in each direction on its New York-Miami route, and announced that it ex-

## Growth of U.S. Hawaii Traffic

Airlines carried 70% of the 89,055 total passengers transported between the U. S. and Hawaii during 1947, according to figures compiled by the Pacific-Alaska Division of Pan American Airways. In 1937 when PAA started its Hawaiian service, the airline carried only 296 passengers, or .6% of the total plane-steamer traffic going both ways between the Mainland and Hawaii. A decade later, PAA carried 44,019 or 49% of the total. The growth of U. S.-Hawaii traffic since 1937 is shown in the PAA tabulation below:

	PAA	Other Airlines	Steamer	Total	% by PAA
1937	296	...	46,656	46,952	.6
1938	232	...	50,454	50,684	.4
1939	520	...	54,142	54,662	.9
1940	639	...	55,808	56,447	1.1
1941	1,153	...	66,000	67,153	1.7
1946	25,886	2,000	17,500	45,386	57.0
1947	44,019	19,036	26,000	89,055	49.0

pected to extend service to Rome and Waycross, Ga., on or about July 1.

Florida Airways initiated a new morning flight out of Orlando on June 6, providing connections at Jacksonville with an Eastern flight to N. Y. and Boston and a Delta flight to Asheville.

Northwest Airlines on June 1 extended its Martin 2-0-2 services from coast to coast. Previously, the new ships had not been flown west of Billings, Mont.

Pioneer Air Lines activated its Amarillo-El Paso route segment on June 1, serving Clovis and Roswell, N. M., as intermediate stops. Initial service is two round-trips daily.

United Air Lines inaugurated a DC-6 non-stop between Los Angeles and Seattle on June 11, first non-stop service between those points.

West Coast Airlines' new summer schedules provide a third daily round-trip between Portland and Medford, Ore., and provide faster connecting schedules at Portland, Seattle and other points.

### International

Pan American Airways has inaugurated an all-cargo schedule with DC-4 equipment between Seattle and Fairbanks, via Juneau and Ketchikan, with flights from Seattle on Tuesdays, Thursdays and Saturdays.

SABENA Belgian Airlines has inaugurated a weekly DC-6 service between Brussels and Johannesburg, with an elapsed time of 24 hours.

TWA, beginning June 15, was to step up its trans-Atlantic passenger services from 34 to 44 flights per week.

## PASSENGER SERVICE

### Stewardesses Win Out

Aiming to keep all its passengers reasonably happy, and not just half of them, Delta Air Lines has decided to place two stewardesses on the DC-6's it is to receive this summer, instead of one stewardess and one purser, as had been the practice on the company's DC-4's. Reason for the decision was the fact

that the DC-6's will have two separate passenger compartments, calling for a division of the purser and stewardess team.

Anticipating that passengers of the two compartments might differ over which were to have the stewardess and which the purser, Delta decided to transfer the present pursers to ticket counter and ground operation jobs and assign two stewardesses to each DC-6—one for each compartment.

### Foreign Travel Made Easy

Braniff Airways is doing its utmost to relieve foreign-bound passengers from one of the annoyances of international travel, the filling out of countless documents—by setting up a special department at its Houston gateway to handle this chore.

When a ticket to a point on Braniff's Latin American route is purchased, the passenger states his type of travel—tourist, resident, transit or business—and the reservationist determines from a quick reference manual just what credentials will be required. The passenger supplies certain personal credentials, a copy of the reservation is forwarded to Houston, and Braniff does the rest. When the passenger reaches that point he has only to sign and pick up the documents which have been prepared for him.

**View of Coulee Dam:** As a special service to passengers who want a bird's-eye view of one of the country's engineering wonders, the Grand Coulee Dam, Northwest Airlines since May 15 has been routing its Flight 605 a little north of the regular Seattle-Spokane course so as to pass near the dam. The re-routing adds only 10 minutes to regular flight time between the two points.

**Travel Log:** United Air Lines now includes as part of the flight packet in planes flying the scenic Denver-Los Angeles route an illustrated folder describing landmarks below and giving historical data about cities along the way.

# HOW BIG IS A BIG AIRLINE?



*To realize the tremendous scope of one of the world's greatest air-transport enterprises, just consider these facts about Scandinavian Airlines System:*

Every day, a fleet of nearly 100 luxury, giant SAS airliners flies a combined distance equal to three times 'round the world, or almost 100,000 air miles a day. Last year, SAS member companies carried 500,000 revenue passengers...20 million pounds of mail...over 16 million pounds of cargo!

SAS serves routes from little Kirkenes, beyond the North Cape in arctic Norway, to Buenos Aires, Nairobi, Teheran and New York.

SAS links 68 important cities and capitals on the four continents, including Amsterdam, Ankara, Athens, Brussels, Buenos Aires, Cairo, Copenhagen, Dakar, Geneva, Glasgow, Hamburg, Helsinki, Istanbul, Lisbon, London, Mar-

seilles, Montevideo, Natal, Paris, Prague, Oslo, Rio de Janeiro, Stockholm, Warsaw and Zurich.

Such world-wide service is possible because of an operational merger of all Scandinavian aircarriers, including Danish Airlines (DDL), Norwegian Airlines (DNL), Swedish Airlines (ABA), and Swedish Intercontinental Airlines (SILA).

With DC-6 service between Scandinavia and New York and interline connections with principal U. S. domestic airlines, SAS provides travel facilities to all points in the United States, South America and the Far East. SAS' past performance builds present preference for SAS!



## THIS SUMMER!

New Super DC-6 Fleet to Europe at 5 miles a minute in the world's most spacious airliners! New extra luxuries and comforts at no extra fare...in the only DC-6s to Great Britain and Scandinavia.

## SCANDINAVIAN AIRLINES SYSTEM

New York—47 E. 46th St., and 6 W. 51st St., CIRCLE 6-4000  
Chicago—105 W. Monroe St., RANDolph 6984  
Minneapolis—1110 Rand Tower, LINCOLN 4735 and NESTOR 6911  
Los Angeles—108 W. Sixth St., TUcker 3739  
Seattle—5527 White Henry Stuart Bldg., SENECA 6250  
Executive Offices: RCA Bldg. West, Rockefeller Center, New York 20  
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## OPERATIONS 100% — PLUS

Inauguration of service to a newly certificated city — Washington (and soon to 3 more)....return to the air of all DC-6's completely modified.....new, top-speed DC-6 flights to 4 additional cities — this is National's record of major accomplishments. It is in addition to normal operations throughout the entire system, serving 28 cities in 11 states, the District of Columbia and Cuba.

This persistent progress toward finer, faster air transportation is made possible by National's experienced team of 1500 loyal men and women, many of them NAL veterans of more than 10 years service.

Route  
of the  
Buccaneers



**available now!**

## 25 EXCELLENT Low-Time C-46 AIRCRAFT

These Aircraft are owned by USair and are at our Palm Beach International Airport and Niagara Falls Municipal Airport bases. They are now ready for Modification and Licensing under USair's Engineering Specifications in CAA Type Certificate # 789

Our modification which includes CAA licensing of the aircraft is thorough and complete, incorporating all engineering and operational improvements, bringing the aircraft up to current safe CAA Standards.

NC'd for 45,000 lb. maximum gross weight. Weight stripped to lowest empty weight to assure the greatest useful load.

We have in stock more than 100 R-2800 engines, as well as airframe parts, components, accessories, and new C-46 parts currently being manufactured by USair.

... Write Today for Detailed Information . . .

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CABLE: USair

PHONE: N.F. 3721

BRANCH BASES:

Buffalo Municipal Airport, Buffalo, New York  
Palm Beach International Airport, West Palm Beach, Florida

## Airlines File 1947 Salary Reports with CAB

The Civil Aeronautics Board has received Schedule E reports showing officers' and directors' salaries for the following airlines during calendar 1947:

### Caribbean-Atlantic

	Change from 1947 Salary	1946
Dionisio Trigo, pres.	\$10,000	.....
Benigno Trigo, v. p.	2,770	.....
James R. Beverly, v. p.	729	.....
Alfonso Miranda, secy.	1,250	.....
*Manuel Sanchez Rivera, secy.-traffic mgr.	1,500	.....
Manuel Sanchez Rivera, treas.	4,500	.....
Lawrence A. Lockhart, treas.	1,500	.....

\* Salary applied wholly to position as traffic manager.

### Empire Air Lines

	Change from 1947 Salary	1946
Joe Lux, pres.	No salary listed	.....
Joe Rosenkranz, v. p.	No salary listed	.....
Arvid R. Nelson, secy.-treas.	\$ 4,900	.....

### Florida Airways

	Change from 1947 Salary	1946
Joseph L. Dyer, pres., gen. mgr. and dir.	\$ 7,083	.....
Marion D. Holman, v. p. and dir.	9,510	.....
Oscar Bergstrom, v. p. and dir.	9,503	.....
M. J. Brown, secy.-treas. and dir.	9,503	.....
Emory Akerman, asst. secy. and gen. counsel	733*	.....
†Thomas E. Gordon, pres. and dir.	2,879	.....
†George B. Carter, secy. gen. counsel and dir.	5,000	.....
†O. L. Sutliff, v. p. and dir.	1,705	.....
* Fee basis		
† Expired 6/6/47		
† Expired 1/13/47		

### National Airlines

	Change from 1947 Salary	1946
G. T. Baker, pres. and dir.	\$30,000	+ 10,000
J. C. Brawner, treas. and dir.	10,000	+ 1,600
H. C. Dobbs, v. p.-traffic and dir.	13,990	+ 3,999
R. P. Foreman, secy. and dir.	9,000	+ 1,800
J. D. Crane, v. p.-main- tenance	10,800	.....
E. J. Kershaw, v. p.-opera- tions	15,124	.....
F. E. Howe, asst. secy.-treas.	7,200	+ 1,450
T. A. Prevost, asst. v. p.	8,124	+ 1,719
J. A. Thomas, dir., member finance committee	7,500	+ 7,500

### Pioneer Air Lines, Inc.

	Change from 1947 Salary	1946
Robert J. Smith, pres.	\$12,000	+ 2,719
Harold B. Seifert, v. p.-op- erations	8,300	+ 4,400
E. W. Bailey, secy.-treas.	6,500	+ 500
In addition to the above listed salaries the following amounts were received as bonuses and indirect compensation: W. F. Long \$25; Robert J. Smith \$25; J. Weasly Hickman \$25; Lang Wharton \$25; Harold B. Seifert \$25; Raymond Pearson \$25.		

# U. S. International Airline Revenues & Expenses for February

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	U. S. MAIL REVENUES	FOREIGN MAIL REVENUES	EXPRESS REVENUES	FRIGHT REVENUES	EXCESS BAGGAGE REVENUES	NONSCHEDULED TRANSPORT REV.	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDIRECT EXPENSES	NET OPERATING INCOME
American	\$ 230,336	\$ 180,452	\$ 2,904	\$ 5,971	\$ 26,282	\$ 3,869	\$ 7,000	\$ 291,366	\$ 133,461	\$ 157,905	\$ -61,030	
Amer. O'Shea	869,500	551,905	123,050	60,930	95,941	11,887	7,000	1,509,216	693,104	816,112	\$ -639,716	
C & S	94,595	59,912	36,442	• • •	2,833	337	• • •	86,108	37,628	50,480	6,487	
Colonial	139,356	89,158	49,333	• • •	35	313	517	• • •	126,940	53,082	73,858	12,816
Eastern	76,589	63,704	1,625	• • •	243	1,259	299	• • •	72,758	37,662	35,096	1,831
National	9,255	6,546	76	• • •	• • •	2,091	2,091	• • •	53,462	14,791	38,691	-44,227
Northwest	888,210	370,098	257,049	25,000	1,461	34,264	5,969	84,539	813,424	392,316	421,108	7,786
Panagra	1,032,700	772,711	83,597	62,907	79,063	• • •	27,448	1,625	1,167,799	461,261	706,538	-135,099
Pan American	4,658,396	3,467,916	164,703	162,229	620,688	• • •	109,660	64,207	4,689,587	1,916,287	2,777,300	-31,191
Latin Amer.	3,469,452	1,250,940	1,773,658	150,717	213,889	• • •	30,599	58,337	3,285,264	1,639,119	1,604,145	246,180
Atlantic	2,483,128	1,283,209	983,355	20,841	147,729	• • •	28,071	19,629	2,401,479	1,314,057	1,087,422	81,649
Pacific	396,445	124,717	241,402	• • •	30,310	• • •	-137	• • •	370,136	168,193	201,943	26,308
TWA	1,689,486	1,114,646	217,355	170,262	126,230	• • •	45,525	2,601	2,945,948	1,176,367	1,371,381	-856,462
United	141,090	124,237	12,685	• • •	2,319	• • •	1,848	• • •	231,738	122,616	109,122	-90,649
<b>TOTALS</b>	<b>16,196,538</b>	<b>9,454,751</b>	<b>4,047,236</b>	<b>658,857</b>	<b>1,317,921</b>	<b>73,883</b>	<b>267,151</b>	<b>237,938</b>	<b>17,605,245</b>	<b>8,158,144</b>	<b>9,447,101</b>	<b>-1,408,709</b>

\* Figures include company's estimate of amount of U. S. Mail Revenues which should be received in accordance with terms of Civil Aeronautics Act when permanent rates are established. Estimate exceeds temporary rate in effect by \$1,572,291.

\*\* Temporary rates in effect exceed estimate by \$75,000.

\*\*\* Estimate exceeds temporary rate in effect by \$130,591.

# U. S. Feederline Revenues & Expenses for Calendar 1947

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	MAIL REVENUES	EXPRESS REVENUES	FRIGHT REVENUES	EXCESS BAGGAGE REVENUES	NONSCHEDULED TRANSPORT REV.	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDIRECT EXPENSES	NET OPERATING INCOME
Challenger	\$ 484,421	\$ 128,976	\$ 319,336	\$ 2,631	\$ 1,558	\$ 471	\$ 1,449	\$ 577,003	\$ 252,034	\$ 324,968	\$ -92,953
Empire	668,589	133,532	526,344	1,529	• • •	756	3,020	891,860	513,284	378,576	-223,272
Florida	428,466	47,052	375,524	902	• • •	252	972	506,747	260,466	246,281	-76,281
Monarch	885,558	219,259	648,123	5,414	9,944	1,070	• • •	1,171,198	621,068	550,170	-285,641
Pioneer	1,899,815	779,507	1,033,726	6,862	1,435	3,895	14,173	1,799,330	897,181	902,148	100,485
Southwest *	1,471,244	669,167	773,069	9,530	4,234	2,686	11,843	2,039,110	925,292	1,113,819	-567,866
Trans-Texas **	147,430	15,576	131,695	• • •	• • •	71	• • •	173,286	67,256	106,030	-25,856
West Coast	722,185	287,053	401,665	2,706	• • •	797	1,588	775,394	32,503	462,891	-53,210
<b>TOTALS</b>	<b>6,707,708</b>	<b>2,280,124</b>	<b>4,238,482</b>	<b>29,574</b>	<b>17,171</b>	<b>9,998</b>	<b>33,045</b>	<b>7,933,928</b>	<b>3,849,084</b>	<b>4,084,843</b>	<b>-1,226,223</b>
Los Angeles ***	36,927	• • •	36,888	• • •	• • •	• • •	• • •	52,156	31,026	21,130	-15,229

\* Figures are preliminary.

\*\* Began operations October 11, 1947.

\*\*\* Began operations October 1, 1947.

# U. S. Airline Balance Sheet Data as of Dec. 31, 1947

AIRLINES	TOTAL ASSETS	CURRENT ASSETS	INVESTMENTS & SPECIAL FUNDS	OPERATING PROP. & EQUIPMENT	DEFERRED CHARGES	CURRENT LIABILITIES	LONG-TERM DEBT	DEFERRED CREDITS	OPERATING RESERVES	CAPITAL STOCK	SURPLUS
All American	\$ 2,293,894	\$ 1,286,185	\$ 689,131	\$ 255,064	\$ 63,514	\$ 135,840	\$ 40,000,000	\$ 684,171	\$ 35,407	\$ 513,660	\$ 1,608,987
American	121,315,020	33,195,961	16,187,548	68,691,768	2,769,742	19,605,463	40,000,000	1,715,545	46,452,835	14,572,523	
Amer. O'Shea	26,732,187	12,804,909	3,324,677	8,831,948	4,146,530	4,149,313	5,000,000	732,831	1,749,825	13,308,673	
Brannif	13,826,505	3,835,433	188,052	8,287,110	833,477	2,065,170	5,454,545	80,493	19,819	2,300,000	3,406,477
Capital-PCA	16,653,052	6,201,768	54,391	7,925,591	549,064	7,208,363	9,890,000	356,558	22,509	479,083	-1,265,537
Caribbean	942,599	94,023	9,402	299,931	24,663	107,173	• • •	• • •	3,078	49,235	94,538
C & S	5,393,728	2,477,463	18,543	2,641,793	228,476	1,418,904	560,000	102,928	• • •	4,093,645	-1,581,750
Colonial	3,356,546	1,631,519	42,748	1,556,921	127,357	674,158	350,000	92,280	38,472	515,800	1,687,735
Continental	2,902,031	1,672,754	232,872	685,447	101,958	572,357	512,500	24,820	• • •	339,882	1,453,471
Delta	8,104,610	3,755,409	134,973	3,865,934	348,296	1,475,820	975,000	181,798	21,094	1,500,000	3,950,898
Eastern	40,625,433	19,095,879	260,005	19,363,616	1,995,932	10,083,992	5,000,000	1,380,895	1,096,375	2,395,572	20,668,600
Hawaiian	2,590,317	1,046,373	• • •	1,518,333	28,171	360,286	• • •	74,828	• • •	1,681,520	473,883
Inland	774,724	530,414	3,690	76,477	55,486	449,105	• • •	33,865	21,823	164,218	105,712
MCA	2,580,266	1,339,325	18,171	1,356,976	69,709	872,119	285,758	87,383	66,386	383,399	1,185,217
National	10,331,455	2,550,795	42,946	7,556,272	166,332	1,926,377	2,210,526	489,416	22,889	749,987	4,932,260
Northeast	3,268,548	836,488	660,092	1,687,862	79,115	2,591,280	• • •	• • •	41,825	40,666	500,000
Northwest	28,126,176	8,346,946	3,956,302	15,256,582	551,051	5,299,575	• • •	629,182	• • •	17,957,550	4,239,869
PAA System	126,490,457	42,903,961	12,714,026	57,287,246	11,585,075	28,245,029	58,978,462	9,597,878	2,123,107	1,000,000	28,549,981
Panagra *	11,587,049	4,832,836	651,783	5,982,782	520,450	2,673,766	1,062,900	1,524,737	2,129,393	4,750,000	-152,546
TWA	73,584,382	21,964,051	8,428,539	36,707,468	4,444,523	13,832,070	49,296,163	3,719,504	• • •	4,930,090	-8,139,603
United	92,731,234	21,368,258	6,469,171	59,806,434	2,396,719	11,302,273	32,660,000	2,946,404	• • •	28,334,677	3,087,800
Western	11,048,895	3,408,142	907,291	6,018,632	518,337	2,354,262	3,800,000	236,926	236,529	525,164	3,896,014
<b>TOTALS</b>	<b>603,551,902</b>	<b>195,474,864</b>	<b>55,010,427</b>	<b>317,870,186</b>	<b>29,054,059</b>	<b>113,401,713</b>	<b>215,991,854</b>	<b>24,002,690</b>	<b>6,658,615</b>	<b>122,411,245</b>	<b>96,370,026</b>

\* Figures are preliminary.

\*\* Above tabulation includes overall balance sheet data for companies, domestic and international combined. Feederline or local service carrier data appear in a separate tabulation.

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**R. B. Wade, Stores Dept.,  
United Air Lines, Municipal  
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Telephone Cheyenne 8931.**

For DC-4 airplane parts and accessories, and for P. & W. R-2000 parts, components and accessories, wire, write or phone:

**C. D. Stowell, Stores Dept.,  
United Air Lines Maintenance Base,  
Bayshore Highway, South San Francisco,  
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**Classified Advertising**

The rates for advertising in this section are as follows: "Help Wanted," "Positions Wanted," "Aircraft Wanted or For Sale," and all other classifications \$1.00 a line, minimum charge \$4.00. Estimate bold face heads 30 letters and spaces per line; light body face 40 per line; box numbers add two lines. Terms, cash with order. Forms close 20 days preceding publication date. Rates for display advertisements upon request. Address all correspondence to Classified Advertising Department, AMERICAN AVIATION PUBLICATIONS, 1025 Vermont Avenue, N.W., Washington 5, D.C.

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Helicopter used by major commercial airline. Has had excellent maintenance. Purchased May, 1947. Equipped with dual controls. Total flying hours 113; total since overhaul 17 hours. Inspection invited by appointment. Write Box No. 619, AMERICAN AVIATION, 1025 Vermont Avenue, N.W., Washington 5, D.C.

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51 Large, clear COLORED illustrations. Includes diagrams of the DC-3, DC-6, Constellation, and Convair-Liner. Covers principles, systems, unit operation, and trouble shooting. Written for the student, mechanic, and pilot. Easy to understand. \$3.85 postpaid World Press, 1837 Champa St., Denver 2, Colo.

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**2-0-2's Now 'Aro-Liners'**

In line with the concept that an airline's fleet must bear a catchy collective name, such as Mainliners, Capitaliners or Flagships, Northwest Airlines launched a contest in which it offered a prize of \$100 for the best name suggested for its new fleet of Martin 2-0-2's. Out of some 14,000 entries, the judges selected the winner: "Aro-Liners."

In submitting the name, David H. Newton, Jr., supervisor of convention sales for the airline, accompanied it with a statement, as required by contest rules, which read:

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New all-metal hangar buildings 147' x 162' packed for shipment complete with bolts and assembly instructions. This is military type clear span arch roof building and meets uniform building code. \$30,000 each F.O.B. Los Angeles. Anderson Aircraft Co., 1700 Sawtelle Blvd., Los Angeles, Cal.

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# WINGS OF YESTERDAY

## 25 Years Ago

Amelia M. Earhart was granted an airplane pilot certificate by the National Aeronautic Association on May 16, 1923. She was first woman licensed by the NAA.

*The First International Air Congress opened June 25, 1923 in London, Eng., with 450 delegates from 17 nations attending.*

## 10 Years Ago

### (In AMERICAN AVIATION)

The Civil Aeronautics Act designed to create a Civil Aeronautics Authority to centralize in one federal body all non-military aviation in the U. S., passed its last Congressional barrier June 13, 1938 and went to the President for signature.

Approximately 15,000,000 air mail letters and 30,000 air mail parcels, netting the Post Office over \$1,000,000 in postage revenue, were carried in the U. S. during National Air Mail Week, May 15-21, 1938, according to statistics released by Charles P. Graddick, superintendent of air mail.

## LETTERS

### 45c Instead of \$9

#### To the Editor:

We read with interest your article on Florida Airways in the May 15th issue of AMERICAN AVIATION. There is one statement, however, with which I cannot agree, and I quote:

"At five airports. (Jacksonville, Orlando, Gainesville, St. Augustine, and Tallahassee), Florida pays \$9 per round-trip landing."

As a matter of actual fact, Florida Airways pays the City of Jacksonville \$13.50 per month for each of four scheduled round-trips into and out of Imaeson Airport, making a total of \$54.00. Assuming a thirty day month, this would make a total of 120 landings. This actually makes Florida pay the City of Jacksonville 45c per round-trip landing, and not \$9.00 as stated in your article.

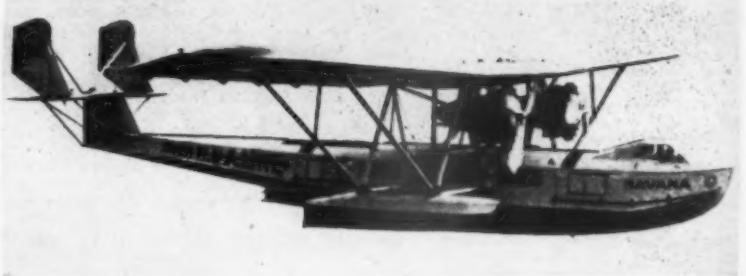
Jacksonville's landing fees are based on the gross weight of the airplane. Florida Airways uses Beech 18-C-T transports, which have a gross landing weight of 9,000 pounds. Our cost per thousand pounds for aircraft weighing up to 30,000 pounds is \$1.50 per schedule per month, making the \$13.50 fee per schedule per month.

Jacksonville does not penalize the small air carrier. The same landing charge per schedule is made whether the carrier has one or one hundred schedules per day.

We trust this information will clarify the situation.

E. E. Bentley

General Manager of Airports  
City of Jacksonville, Fla.



## Quarter Century of Progress—

When Consolidated Vultee Aircraft Corp. reached its 25th anniversary on May 29, it could look back on a production record of more than 38,700 aircraft of more than 50 basic types. Its latest commercial transport—the 40-passenger, 300 mph Convair Liner—is shown above the company's first commercial airliner, the Commodore. Built in 1929, the flying boat cruised at 110 mph, carried 20 passengers. Consolidated's first plane was the TW-3, a small trainer powered by a Hispano-Suize engine, built in East Greenwich, R. I., in 1923.

## BOOKS

**RADIO AIDS TO NAVIGATION.** by R. A. Smith. Published by The MacMillan Co., 60 Fifth Ave., N. Y. C. 110 pp. \$2.50.

Part of a new series of books on Modern Radio Technique edited by J. A. Ratcliffe, this volume outlines the developments in the application of radio technique to navigation during the war years. It is concerned mainly with the navigation of aircraft, although navigation of ships is discussed briefly.

It begins with an account of pre-war systems and their limitations and traces how these were gradually overcome by new techniques, particularly by the development of radar. Much of the research leading to these radar developments took place in the laboratories of the Telecommunications Research Establishment of the British Ministry of Aircraft Production, where the author was at work on these lines.

Individual chapters of the book deal with such subjects as radar interrogators and responder beacons, VHF and DF short-range navigational aids, VHF ranges, Gee, Loran, microwave radar navigational aids, radio altimeters, continuous-wave systems, etc. The book is illustrated with a number of line drawings and photographs.

**PRACTICAL AIRCRAFT HYDRAULICS.** by Earl J. Horrell, World Press, Inc., 1837 Chamfer Street, Denver, Colo. \$3.85.

In a brief introduction to this new book, A. P. Shelly, Continental Air Lines' director of maintenance and engineering, points out that the author has had 12 years of mechanical and supervisory experience with his subject. The author says he is writing as a mechanic for mechanics. Actually

he has prepared a good basic text which should be studied by anyone who has to do with the workings of an airplane.

Using a series of diagrams, in color, the book first creates an understanding of general principles of hydraulics, then progresses through brief and understandable descriptions of the composition and function of each component of a transport airplane hydraulic system. The DC-3, DC-4, DC-6, Constellation and Convair-Liner systems are described. Final chapters are devoted to trouble sources and trouble shooting methods.

### Booklets

**Airline Codes:** The airline training division of Central Radio and Television Schools, Inc., 1644 Wyandotte St., Kansas City 8, Mo., has published two booklets on airline codes and abbreviations and is distributing them free of charge to airline personnel according to their classification. The codes and abbreviations are published in two parts in the interest of compactness. Part I containing information specifically pointed to reservations and traffic personnel, and Part II containing all of Part I plus additional codes and abbreviations necessary to operations and communications personnel.

Copies in addition to the original distribution, which is free, may be secured at the following prices: Part I, 25c each; Part II, 35c each.

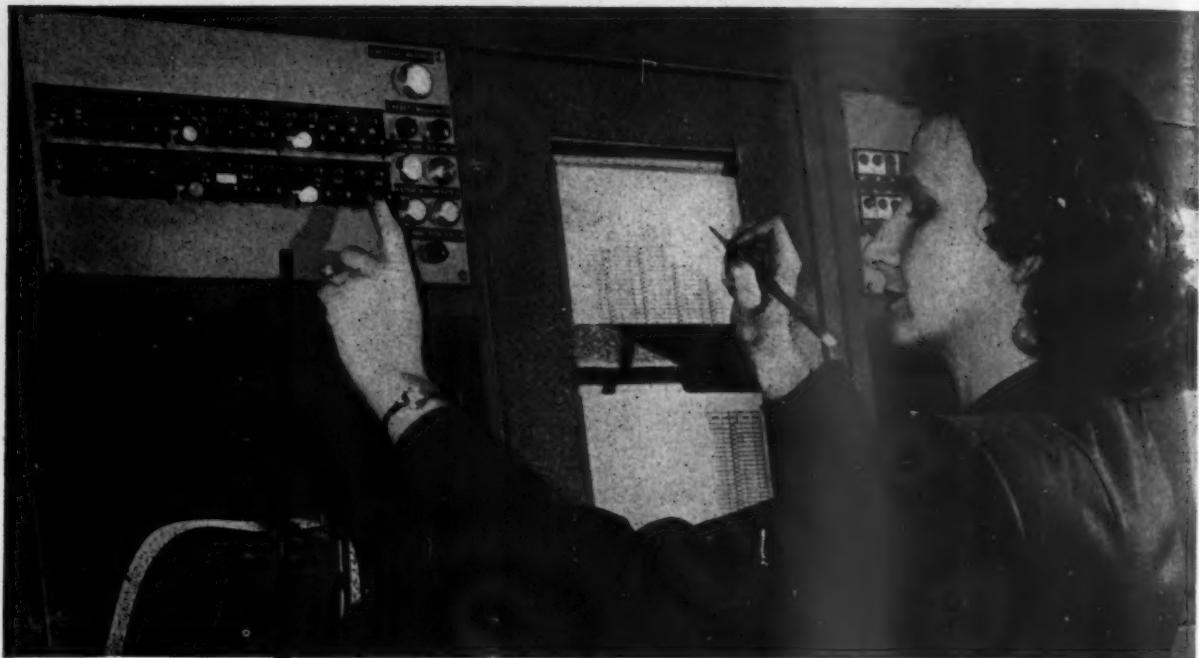
**Red Tape Report:** U. S. Air Coordinating Committee has released the report of its economic division's subcommittee on facilitation of international civil aviation, titled "Simplifying International Air Transport." The report summarizes findings of the subcommittee's survey team which visited major airports of entry in the U. S. last year, and reviews progress made in elimination or simplification of practices hampering international traffic. Copies available from H. G. Tarrington, Room 5106, Commerce Bldg., Washington, D. C.

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***she sends messages 15,000 miles  
by pushing a button!***

Miss Evelyn Thompson is one of 52 employees at United's new Communications Center in Chicago. It's her job—and her co-workers'—to send administrative, operational and passenger service messages to the 75 cities on United's Main Line Airway.

Using new-type electronic teletypewriter equipment, Miss Thompson performs her duties quickly, easily, and accurately. She reads destinations from a ticker-tape, presses the proper buttons, and the

messages automatically go to the United offices designated on the tape. Only one typing operation is necessary—at the point of origin. More than 2,500,000 messages are handled every month by United's 15,000-mile wire network.

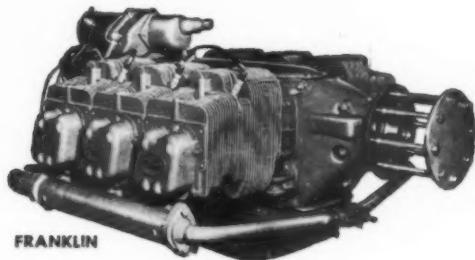
United's new Communications Center also includes a Radio System that sends and receives messages pertaining to, and with, aircraft in flight. A Private Line Telephone Service is used for reservations,

confirmations, and itinerary information. And a similar system permits conferences, on a moment's notice, of meteorologists, dispatchers and flight captains concerning flight conditions in different parts of the country.

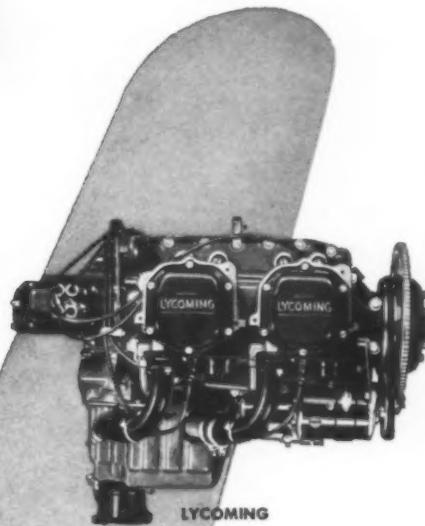
United's new Communications Center exemplifies the rapid development of the air transportation industry; it's another symbol of the progress the airlines have made in improving scheduled air service.

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FRANKLIN



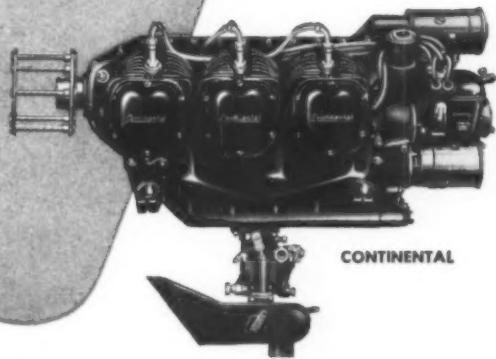
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